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Original Articles.

MUSCULAR INSUFFICIENCY OF THE MITRAL VALVE.

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The conception of a purely muscular insufficiency of the atrioventricular valves is so new a one, that here in America, at least, it has made but little impression upon the great body of physicians who have to do with heart cases. The purpose of this paper is to endeavor, in some small way, to secure for this very important and common group of cases the recognition they deserve, and this not only theoretically but practically at the bedside.

DEFINITION OF MUSCULAR INSUFFICIENCY.

A muscular mitral insufficiency is one in which the valves are anatomically normal, in which the mitral ring is not of such large size that the curtains do not suffice to close it, but in which the valve is incompetent, because of the imperfect functionating of the muscular apparatus of the valve.

Until very recently we have been accustomed to think of the closure of the valve as a purely mechanical process, much as a valve in a water pipe closes. Indeed, it is not yet a matter of general knowledge that the valves of the heart, more especially the atrioventricular valves, depend for their accurate coaptation and water-tight closure upon a rather complex muscular apparatus, of which the papillary muscles form only one, though a very important part. To clearly understand the muscular insufficiency of a valve, it is imperatively necessary to have a clear conception of the normal physiology of the valves as brought out especially by German investigators in the past decade.

THE EXISTING NOMENCLATURE.

Because of the somewhat confusing nature of the nomenclature and conceptions of the various forms of insufficiency, I may be pardoned for diverging for a moment to clear up certain points. A mitral insufficiency may be: 1, endocarditic; 2, relative (*sensu strictiori*), (*a*) primary, (*b*) secondary; 3, muscular. The endocarditic form, due to shrinkage, rolling up, or vegetations in the mitral curtains, needs no further explanation. The term relative insufficiency has hitherto been used in a rather collective way to embrace all insufficiencies not due to endocarditis.

No fault could be found with this nomenclature so long as the conception of a muscular insufficiency did not exist. Now that this latter conception is firmly established, it seems desirable to adopt a more precise nomenclature, at least to the extent of separating out from the relative insufficiencies those due to defective muscular action. Strictly and etymologically, a relative mitral insufficiency is one in which the mitral curtains are inadequate to close the atrioventricular orifice, owing to the extreme dilatation of the latter. In other words, the curtains are absolutely of normal size, but relatively too small, as the mitral ring is much too large, because of the great dilatation of the left ventricle. Now this condition of affairs, a relative insufficiency *sensu strictiori*, may be primary or secondary.

The primary relative mitral insufficiency is one form of the acute dilatation of the heart, which results from physical strain; the heart so graphically described by Clifford Allbutt. This form has been much discussed and is a well-known condition, needing no elucidation here. To one point in its etiology I shall refer later. The secondary relative mitral insufficiency is that form in which the dilatation of the left ventricle is secondary to some pre-existing lesion. Thus it may be the terminal stage in an aortic lesion, in a chronic Bright's disease, in arteriosclerosis, etc. In my judgment this is not a common condition, not nearly so common as usually supposed; indeed, I will go so far as to say that it is rather uncommon. My reasons for this assertion will appear later. The conception of the relative insufficiency is that it is purely mechanical in its nature; and in this connection the term relative is eminently *apropos*. Whether these conditions are as purely mechanical as has been hitherto thought is a question to which I shall recur later.

REAL CHARACTER OF THIS DEFICIENCY.

With these forms, the muscular mitral insufficiency has nothing in common. It does not presuppose a great dilatation of the left ventricle or the mitral ring; indeed, in the milder grades, there may be only a little dilatation, though there is always some. The essential factor in the muscular insufficiency is the imperfect functionating of the muscular apparatus of the valve, allowing of regurgitation. It is a true mitral insufficiency—*insufficientia valvulæ mitralis*—having the same physical signs as any other mitral insufficiency of equally high grade. Especially do I wish to warn against the confusion of a muscular mitral insufficiency with ordinary cardiac insufficiency—*insufficientia cordis*—which is a very different thing. *Insufficientia cordis* is the terminal stage in a large series of heart conditions, and means nothing more or less than exhaustion of the myocardium. This, of course, leads to the symptom complex of venous stasis, but without the physical signs of a real mitral regurgitation. On the contrary, a muscular insufficiency may exist for a long time; indeed, it

often exists, with no venous stasis, if only the right ventricle be of approximately normal strength.

The development of the conception of muscular insufficiencies (I have used the mitral because of its greater importance and frequency) has gone hand in hand with the more exact anatomic and physiologic investigation of the cardiac mechanism, together with clinical and pathologic observations of an exceedingly exact nature. For this we are indebted chiefly to the Leipzig school—to Krehl, E. Romberg, Hesse and their co-workers.

A HISTORICAL SURVEY.

It is not strange that the lesions of the endo- and pericardium should have first attracted the attention of observers and held it for so long a time. They are readily discerned, and are, in comparison with myocardial lesions, easy to diagnose. Furthermore, the changes which follow endocarditic valve lesions are in part mechanical and this centered the attention of all observers on them. Here and there some one would call attention to myocardial changes, but the ideas were never taken up into the general fund of knowledge. Especially was this true on the continent. Bamberger, than whom no better authority existed in his day, criticising Stokes' text-book, which had become in its German translation very well known, says in almost so many words, that he confesses his attention to have been practically exclusively directed to the endo- and peri-cardium. Even the weight of Stokes' authority, great as it was, was not enough to impress on the physicians of that day that, in last analysis, the myocardium is the important factor. From Bamberger's time till only a few years ago not very much was added to the general stock of knowledge, and practically nothing was known a decade ago of any direct relationship between myocardial disease and valvular insufficiencies. To illustrate the condition of affairs as it existed a few years ago in Germany and as it exists here, to a greater or less extent now, I can do no better than to quote the pertinent paragraphs from some of the better-known text-books.

Sansom, in his excellent text-book written in 1892, says under the diagnosis of mitral insufficiency: "Supposing the patient presenting the murmur of mitral regurgitation be over the age of 40 years, or show evidence of degenerative changes, and supposing there be no definite history of antecedent acute or subacute rheumatism, it is very probable that the mitral regurgitation is due to the dilatation of the left ventricle, consequent on high pressure within the aorta or to disease at the aortic orifice." From this it is plainly evident that to him all mitral insufficiencies not organic in nature are relative and due to extreme dilatation.

In "Allbutt's System," where Allbutt himself gives an excellent account of the lesions of the heart due to strain, no mention is made of the muscular insufficiencies proper, although the importance generally of myocardial disease is fully recognized.

In Gibson's text-book (1898) the same status of affairs is found, although at that time the investigations of the Leipzig school had been published several years.

Whittaker, writing in the "Twentieth Century Practice," shows a familiarity with the researches alluded to, but even he does not appreciate their full significance. He says, p. 222, under the caption of mitral regurgitation: "In a third class of cases there may be no affection of the endocardium whatever, but the myocardium, especially in the vicinity of the atrioventricular orifice, may have lost tone through inflammation so that the orifice is no longer properly adjusted to permit closure by even perfectly normal valves. As stated elsewhere, the auriculo-ventricular orifices, though circular or oval during the period of diastole, change their shape under the contraction of muscular fibers at the base of the heart to assume a more slit-like or buttonhole appearance. Any impairment of the tone of these muscles, any paretic condition, for instance, under acute inflammation of the myocardium, or any cicatricial contraction in the course of chronic myocarditis, may thus interfere with the natural alteration in the shape of the orifices necessary to secure perfect occlusion by the valves. In any case, an hypertrophy, which may have compensated a valve lesion or have remedied a defective tonicity, gives way in the course of time, so that the heart cavities undergo dilatation under the continued pressure of the blood. This dilatation may become so great that the valves no longer suffice to close the orifice. Such an incompetence is distinguished as a relative insufficiency. This relative insufficiency is more common in the right heart, but is observed frequently in the left heart in the later course of the hypertrophies which arise in consequence of increase of blood pressure, arteriosclerosis, Bright's disease, etc. Pellegrini described a typical case of relative insufficiency at the mitral orifice caused by fatty degeneration of the papillary muscles. The patient was a man, aged 60, in whom a systolic murmur could be heard over the hypertrophied left ventricle. The autopsy revealed perfect valves with fatty papillary muscles and arteriosclerosis as the cause of the hypertrophy." Although Whittaker appreciates the importance of the muscular apparatus of the valves, yet he seems to think that a dilatation is necessary to have a true incompetency.

As mentioned above, the important researches which have led to a reconstruction of our ideas on this subject come, to a great extent, from the Leipzig school. It has been my fortune to see a great deal of work at this clinic and in the Pathologic Institute of the lamented Birch-Hirschfeld to see a large number of autopsies with a high proportion of heart cases. In three years, which have elapsed since then, I have given the subject especial attention. I have been able to observe a goodly number of cases, and a few with autopsy. The anatomic and physiologic considerations which follow are based principally on the researches of Krehl, Romberg and Hesse, with their co-workers. The clinical history and diagnosis are based on my personal observations.

ANATOMIC AND PHYSIOLOGIC DATA.

The following sketch of the anatomy is based on Romberg's paper. The basis of the left ventricle, which is formed of three distinct muscle layers, is a ring muscle, which has a very considerable strength. The fibers of this ring muscle form a completely closed circle, although the individual fibers may anastomose freely. They assume a general direction perpendicular to the longitudinal axis of the ventricle. It forms really a closed sac, having a large upper opening at the base of the ventricle, a smaller below at the apex. On the outside of the ring muscle a covering of fibers is present, which emanate from the atrioventricular junction and radiate peripherally. Others radiate from the aortic orifice. These fibers run slantingly downwards to the apex, bend in at the whorl of fibers forming the apex, pass through the lower opening of the ring muscle, to form the inner layer of fibers. The papillary muscles are in especially intimate connection with the ring muscle. The layers are not separated by connective tissue; on the contrary, they are intimately joined by

anastomosing muscle fibers. The ring muscle above described takes in the middle third of the outer wall of the left ventricle, but nearly the whole thickness of the septum.

The external wall of the right ventricle is made up of two layers. The septum, as seen above, belongs almost entirely to the left ventricle. The most important and thickest layer in the inner. This inner layer is made up of numerous trabeculæ, which show a definite arrangement of the fibers when in systole, but none when in diastole. The direction of the fibers corresponds to the direction of the flow of the blood in the different parts. The external layer is formed by those fibers which arise from the posterior surface of the left ventricle and from the posterior part of the root of the aorta. This layer is very thin.

The left ventricle interests us especially. From the above description it is plain that the external and internal layers surround the ring muscle like a loop or series of loops. The real propulsive force of the left ventricle is the ring muscle. By the simultaneous contraction of the external and internal layers, the lengthening of the ventricles in systole is prevented, so that the longitudinal diameter of the left ventricle remains about the same in systole and diastole. It is evident that an increased power of resistance is given to the ventricle by this arrangement.

The contraction of the right ventricle takes place in three diameters, not in two, as does the left. The external wall, by the contraction of its longitudinal fibers, is drawn toward the septum. This is aided by trabeculæ of muscle, which traverse the ventricle from the outer wall to the septum. The contraction of the internal layer causes a diminution of the longitudinal diameter and the point of origin of the pulmonary artery descends. This has deceived physiologists for a long time into believing that the entire base descends. This short sketch of the arrangement of the muscle layers of the ventricles gives us the clue in part to the valve mechanism. The subject is put so clearly by Romberg, that I can do no better than quote him:

"The mitral and tricuspid do not hang loosely against the ventricular walls during ventricular systole; they are pulled away by the papillary muscles from the ventricular walls and are made to approach the middle of their respective openings. A single glance at the arrangement of the papillary muscles makes this comprehensible. Their points of origin on the ventricular walls are in the dilated left ventricle brought approximately into a plane which is laid through the line of contact of the mitral flaps. Each papillary muscle is inserted into that half of each valve flap directed towards it. When the point of origin of the papillary muscles is removed from the point of origin of the valve flaps, the pull of the chordæ tendinæ approximates the valve flaps to each other and keeps them away from the ventricular wall. Exactly the same relations are to be found in the right ventricle. The arrangement of the chordæ tendinæ on the under surface of the valves makes it necessary that the pull of the papillary muscles should stretch the free edge of the valves less than it does the remaining parts; the free edge floats, as it were. This arrangement was known as far back as Skoda's time.

"As soon as the systole commences, the blood presses at once against the under surface of the valves and approximates their free edges. The papillary muscles are brought so near to the valves through the contraction of the ventricular cavity that the valves bulge out towards their openings and are brought together, the surface of contact being very large. The tightening of the chordæ tendinæ prevents the valves swinging back into the auricle. All of this, however, does not suffice to bring about a certain closure of the atrioventricular valves. The valves would yield to the pressure of the blood which presses against them from the ventricular cavity, in other words, would be insufficient, were it not that the ring which forms their points of insertion contracts to a very considerable degree. Through this contraction of the ventricular base, the mitral and tricuspid openings become contracted to narrow slits. In this phase of the systole the valves are closed almost by the musculature alone. The valves are in contact with each other throughout almost their entire extent; their closure is exceedingly secure because of the great extent of the surfaces of contact of the valve flaps."

It was my purpose to discuss only the atrioventricular valves, but I can not forbear because of its great interest to quote further as to the action of the semilunar valves:

"The pulmonary valves rest almost entirely on a muscular foundation; the aortic valves to a less degree, that

Fig. 1.—The closed auriculo-ventricular valves of the human heart as seen from the auricle, which is cut away, showing the slit-like shape of the orifices in systole.*

is, in two-thirds of their entire extent. The form of the arterial openings is changed to a very considerable degree because of this. From immediately under the aortic valves a marked muscular prominence emerges from the ventricular septum and runs towards the anterior mitral flap. The narrowing of the aortic orifice is so marked that the opening through which the blood streams out of the left ventricle becomes, in the case of an adult, just large enough to permit of the passage of the tip of the little finger. In the same way the diameter of the beginning of the aorta, which lies deep down in the heart, is diminished to a considerable degree because of the contraction of the ventricular basis. In the right heart there is a more general narrowing of the conus arteriosus because of the contraction of the external ring musculature and through the projection of powerful longitudinal muscular bundles on the inner surface of the ventricle. The blood streams, as it were, out of a small opening into the distended artery; this causes eddies which drive the valve flaps towards the

* The cuts are taken from the paper of Hesse, loc. cit.

center of the vessel and closes them as soon as the outflow of blood from the ventricle ceases, as the pressure in the artery is higher than that in the ventricle. It seems assured in view of certain pathologic facts that under ordinary pressure conditions the semilunar valves of the aorta will not close promptly or completely without the perfect action of the musculature. It is probable that this is true of the pulmonary valves as well."

Hesse arrives at similar conclusions, based on anatomic considerations. He pursued his investigations on young dogs of the same litter, having hearts of the same size, as he found. By special methods he succeeded in hardening the hearts—one set while in full diastole, another while in full systole. The hearts so hardened were studied *en masse* and in transverse sections. This method gave excellent results in determining the shapes of the ventricles. He also succeeded in making a series of exact measurements on one and the same freshly excised dog's heart, first in diastole and then in artificially produced systole. Still further, he succeeded in obtain-

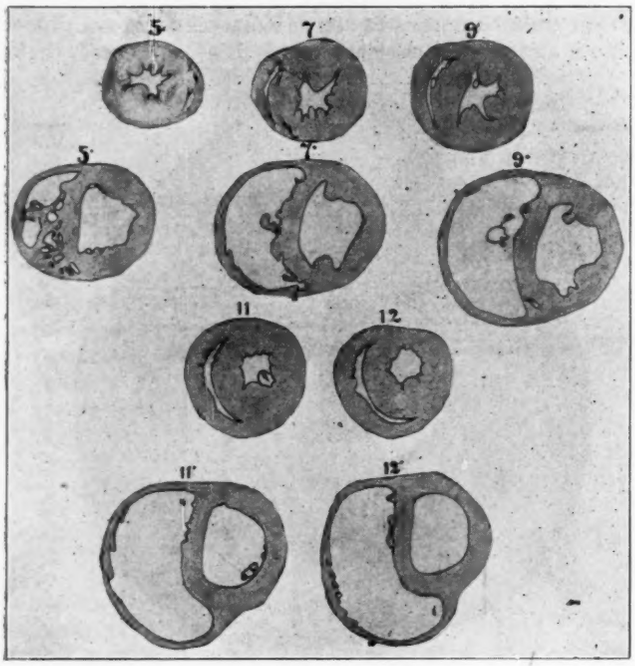

Fig. 2.—Serial sections (transverse) through hearts of young dogs, showing shape in systole and diastole.

ing plaster casts from one and the same heart under similar conditions and from these casts could reconstruct models of the heart in diastole and systole. These acted as checks to the direct measurements taken. Hesse's results are here summarized, or at least so much as is necessary for our purpose. He finds that the essential process in the systolic contraction of the heart is the shortening of its transverse diameter without diminution in the longitudinal axis. To obtain an idea of how great the contraction of the heart is at the base, he measured the bases and found the areas of the cross sections to be, in diastole, in the first heart, 77 sq. cm.; in the second heart, 67 sq. cm., and in the third heart, 52 sq. cm., while in systole these areas were 41, 36 and 32 sq. cm., respectively.

This diminution is due chiefly to a narrowing, so that the atrioventricular opening becomes a mere chink. An old experiment, which has been oft repeated, is to fill a heart, not yet in stage of rigor mortis, from the aorta. It will be found that the mitral valve is incompetent. If rigor mortis have already set in, or if it be produced artificially, the valve is competent. This has always been interpreted to mean that the papillary muscles functionated properly in the one instance but not in the other. Hesse found that if the base is made to contract (by ligature), the valve will become competent in the heart not in rigor mortis as well. The narrowing of the base is well illustrated in the diagrams. The narrowing of the base is so great that it causes the flaps of the valve to fold—as many as four or five folds occurring. The peripheral part of the flaps are arranged horizontally, the central hang down more or less loosely. Even in diastole the anterior flap is taut and does not flap to and fro in the bloodstream. The anterior mitral flap is the most important. Briefly, he considers the action of the ring muscle in narrowing the mitral orifice to be essential for perfect closure of the valve.

Finally, attention must be called to one very important point. It is not correct to picture to ourselves the rôle of the papillary muscles and chordæ as simply guy-ropes intended solely to prevent the valve flaps from being pressed back into the auricle. They do much more than this. They aid actively in causing the valve flaps to assume the proper position to close perfectly. Krehl says: "If one, in order to study the actions of the papillary muscles, were to make a transverse section of the heart, hang it up in an inverted position, and then attempt to close the atrioventricular valves by pouring in mercury, this is found to be possible, when the papillary muscles assume certain definite positions. In

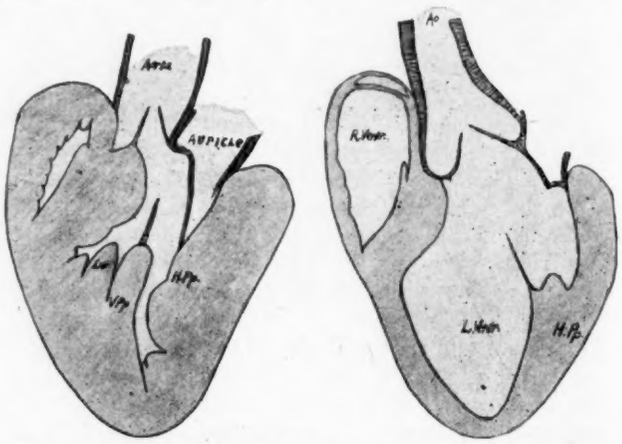

Fig. 3.—Longitudinal section through dogs' hearts, showing shape in systole and diastole.

the healthy heart the muscles are given these definite positions by the systole. If a heart muscle contains scar tissue in certain places so that it does not contract fully and equably, it may happen that the papillary muscles can not be brought into these positions, and the valve becomes insufficient, without the valve itself being in the least abnormal; if the heart later on contracts again completely, the insufficiency disappears. Such insufficiencies, without valve changes, occur also in greatly dilated hearts. They have been called relative, and the conception has been that the greatly distended opening is no longer capable of being covered by the flaps. This assumption explains nothing, inasmuch as it is well known that one flap suffices to close the atrioventricular opening. The closure of the valve, the flaps being normal, does not occur, because the insertions of the chordæ in the papillary muscles come to lie so far from the middle of the ventricle, that they can not be brought together by the slight pressure of the blood from the auricle. Now, if the ventricle contracts incompletely, the papillary muscles will not be brought to the middle of the

ventricle even in the systole, and blood will regurgitate even then into the auricles."

MORBID ANATOMY.

It is not my purpose to give in detail the morbid anatomy of the muscular insufficiencies. This much may be pertinently said, however: In the acute cases of muscular insufficiency, the essential lesion is an acute infectious myocarditis. This is described in great detail by Romberg for typhoid, scarlet fever and diphtheria.

In the chronic cases the essential lesion is almost always a chronic interstitial myocarditis or better, myodegeneration, usually with arteriosclerosis. With this latter condition all are familiar. The well-known areas of cicatricial tissue in the walls of the heart need no description here. The acute myocarditis is, we believe, a condition little known and rarely diagnosticated. Every one who sees many sections must have seen cases in which a well-marked mitral insufficiency develops acutely during some acute infection. It is diagnosed as endocarditic and the section shows a few tiny excrescences along the free edges of the flaps. This has usually been considered to adequately explain the insufficiency; as a matter of fact, however, this is quite insusceptible of a simple mechanical explanation. Rosenbach has shown clearly that quite good-sized excrescences, if soft, may be present, without in the least influencing the closure of the valves. Romberg recognized this fact most clearly and, speaking of the acute myocardial changes, says, "The significance of the above-described anatomic changes for the clinical features is apparent. The delicate excrescences of the first stage of a verrucose endocarditis can hardly be conceived of as offering an obstruction to the free motion of the valve segments. The complete closure of the valve will only be prevented when the endocarditis has progressed further, when the excrescences have become larger and firmer, when the segments have become fixed by adhesions, thickened and made rigid by connective tissue proliferation, and retracted by the traction of the latter. We have seen that it requires a fairly long time for these sequelæ to develop. In order to properly estimate the mechanical effects of any excrescences, we must always bear in mind that the valves, when closed, have large surfaces in apposition. In the case of the atrioventricular valves these surfaces of contact are so large that excrescences at the free edge of the flap would only bring about an insufficiency during the first part of the systole. How closely and extensively the valve segments come into apposition with each other may best be inferred from an observation of Beyer, who found that he could introduce a finger through the atrioventricular opening without the valve becoming incompetent. In the case of the semilunar valves, because of the smaller surfaces with which these come into apposition with each other, smaller excrescences will offer more of an obstacle to the valve closure, although here also considerable, though soft, fibrinous deposits may exist without noticeably influencing the play of the valve. Whether verrucose excrescences will cause a stenosis of an orifice depends on the size and adhesions. As is well known, stenoses are rare in acute endocarditis. Now, in the very beginning of the disease we see in the great majority of cases undoubted symptoms of insufficiency. The diseased valves may in certain cases of endocarditis of the semilunar valves explain the origin of this insufficiency, in the case of the great majority of insufficiencies of the atrioventricular valves, it certainly does not."

A further proof is to be found in the experience, which all have had, that certain cases of endocarditis arising in the course of tuberculosis and carcinomatosis cause absolutely no symptoms. Now, if the question were purely one of mechanical obstruction to the valve closure, they would cause just the same symptoms of insufficiency as in the other group of cases.

(To be continued.)

RESUME OF THE HISTOLOGY OF THE DENTAL PULP.*

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The consideration of the details of development and structure from a new point of view, I regret to say, is too incomplete and my opportunities have been too few to allow of the experimental work being completed in time for this meeting. I can only bring to your notice a number of what seem to me to be important questions bearing upon this subject for your discussion.

When we consider the literature† at our command, we feel inclined to ask, "Is this reliable?" "Can we prove these statements?" And when we commence our line of proof by experiments, we meet with many obstacles. First, we find our education as regards our microscopic work has been neglected in college, or only given us from one side—the medical—with no dental bearing at all. What student is taught the principles of optics, illumination and the use of the condenser, which are so important in this work, when we must differentiate and explain what we see, so as not to give false interpretations? It is often said, "We do not need any such work; we shall never use it." And very little interest is shown by the student, because such ideas are presented. Take away the micro-work from our profession and we take away almost all the greatest work.

Only recently Dr. Walkoff has disclaimed Williams' idea of the cement substance being present in enamel, and says that the rods are actually in contact. Why is this? Because of the difference due to micro-training and the correct interpretation of images. Dr. Walkoff says the cement substance theory is due to inaccurate focusing, and to the use of objectives having too low a numerical aperture. Hence we see the reasons our older men studied optics, illumination and diatom structure, requiring the highest acme of skill, not only to produce the picture, but to interpret the same. One observer may describe hexagonals, another dots, a third clear space and lines—all in the same field! Who is right?

It is a matter of some pleasure to note that Dr. J. L. Williams has gone so far as to urge the study of the lower forms of life, with a definite object in view. This has been my own desire for many years, and I have always tried to give a few hours to the subject, together with lantern slides and mounted specimens. Our dental students should be taught this subject, and by a teacher who is broad enough to show the close relations of science, medicine and dentistry. Unfortunately, the pressure of manual work is so great that the students

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

† Boll, Sir J. Tomes, Charles Tomes, Legros, Magitot, Leber, Rottenstein, Kolliker, Waldeyer, von Ebner, Retzius, Mummery, Miller, Milles and Underwood, Michaels, Choquet, Vignal, Gallippe, Huxley, Klein, Charteris White, Paul, Goodsir, Caush, Williams, Goadby, Hopewell Smith, Andrews, G. V. Black, Schaefer, Spee, Sudduth, Roedecker, Bromell, Paris, Arkövy, Vincentini, Wedl, Weil, Morgenstern, Walkoff, Römer, Neumann, Röse, Raschkow.

seem only too glad to put their microscopic science branches into the smallest limit of time, and they demand the most rapid methods of work, and, I am sorry to say, it is here the division of sentiments occurs in our professional schools. One set of teachers urging such work as being of little value compared to the operative —prosthetic methods, but they will confine a class of students to a four or six weeks' course on natural tooth forms!

Students classify themselves into many degrees and we are expected to suit them all. First comes the industrious one, who, if given the scheme and slides, aids himself. Secondly, the average man who expects his teachers to give him the cream of all the work ready to digest, and to stand at his elbow all the time. Again, the slow, dull fellow, who desires constant repetition. Lastly, the lazy man who cares for no one's comfort or even his own progress. There are also difficulties inherent in the subject itself. Take, for example, the study of the physiologic resorption of the deciduous teeth where the pulp retains its vitality—and here we may ask, where is the study of the physiology of our dental structures similar to those given the medical student concerning the action of the stomach, liver

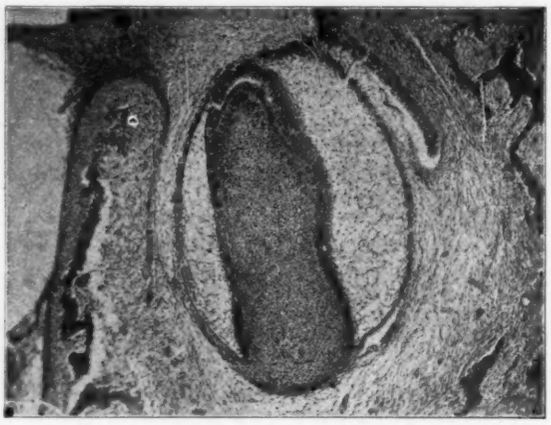

Fig. 1.—Dental pulp. Strata reticulum, intermedium and externum.

and intestines? Physiologic teaching of a nature to call forth any vital interest is at a very low state in the majority of the schools in this country, and it is a detriment to both medical and dental practitioners, as they both work in the field of clinical medicine as well as in the anatomic and surgic.

To return to our pulp. As soon as the so-called absorbent organ reaches the pulp it causes the latter to undergo a change at the point of contact. It is probably during the time required for this change to be effected that the dentine immediately surrounding the tooth pulp remains safe from dissolution; but once the change sets in, the part of the pulp nearby joins in the general attack upon the tooth, i. e., the pulp becomes an absorbent organ, alternately resorbing and laying down new tissue, which closely resembles cementum in all details except the lamellar structure of the latter. If the pulp dies, the natural process is arrested, roots do not absorb, but remain to obstruct the eruption of the advancing teeth, in some causing alveolar abscess and in others irregularity. This is borne out as first described by Dr. Theodore Stack by the faceting of the ends of the roots of the deciduous teeth by the crowns of their permanent successors. Tomes says: "When resorption has progressed so far that only a small part of the crown remains, the enamel is likewise involved and resorption indentations make their appearance in it also." He has seen, both in animals and in men, many pulps taking on a diseased action, sometimes on account of caries approaching and sometimes the pulp eating away the walls of its own chamber. Then, after a time, that process of destruction is stopped and the giant-cells of absorption themselves are calcified.

Another question: How near to the pulp do the micro-organisms in dentine penetrate? So far that more than 80 per cent. are sacrificed. Almost all pulpless teeth are infected and so give abscesses later. Even the smallest superficial cavity shows the deep penetration and the symptoms of pulp irritation. The extreme difficulty of removing the ultimate fragment of a pulp seems to me worth noting, from a histologic, pathologic and bacteriologic point of view. That it is difficult is borne out by attempting to pull out a pulp from a tooth that has been cracked open; at the apex of the root the pulp will be found especially adherent. Are these attachments nervous, vascular or connective tissue? This point has a practical bearing in operative dentistry. In reading papers on treatment of pulps, one sees the statement: "The difficulty is in removing the colloid material at the very apex when trying to empty cavities, and to find any agent that will do it." What this is I am not prepared to say, and I think some

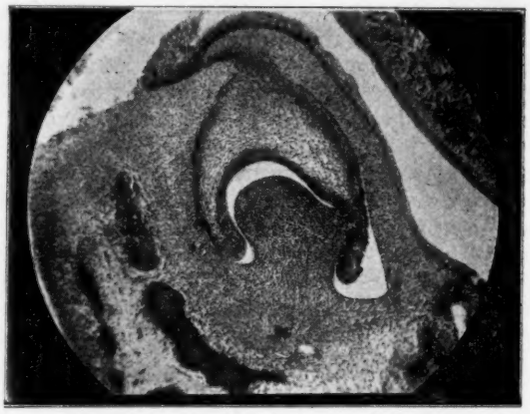

Fig. 2.—Invagination of enamel organ on the dental papilla.

pathologic work might inform us of the nature of this material.

If an organism is bathed in its own juice it ceases to live. The cultivations made at the present time to produce the various serums for dealing with diseases of various kinds are, I believe, based upon that fact. In dead teeth a simple extrusion from the alveolus is seen; in living teeth, a growth of the alveolar ridge which is dependent on the live pulp. The wasting of the ridge after removal of teeth is due to extraction of the dental pulp, as well as to the local damage caused by removal of the tooth itself; indeed, it may be fairly maintained that the results of the tooth extraction scarcely equal those due to the loss of functional activity of the pulp; for the pulp influences in a marked degree the nutrition of the alveolus and its process—a trophic function. The loss of the pulp may cause a disturbance of the vasomotor equilibrium, in the direction of a paralysis of the vaso-constrictor mechanism, similar to that seen in the familiar experiment upon the rabbit's ear, when section of the sympathetic causes vascular dilatation. The peridental membrane is congested, owing to a loss of resiliency in its blood vessels—a condition very likely to cause stasis and so account for the change that takes place in the surrounding alveolar process. If the pulps are removed from deciduous teeth, strictly speaking, resorption does not take place,

but like the change affecting dead permanent teeth, the process is pathologic, not physiologic, and is much more slowly accomplished than normally. This is one of the reasons we see the roots of dead temporary teeth coming through the alveolar margins and causing ulceration of the cheeks and lips.[2] Gingivitis and alveolitis may be a sequel to degeneration of the tooth pulps, and the sensitiveness of the teeth on the periphery in pyorrhoea alveolaris which we can compare to the corneal reflex. Hence we must get our micro-workers to demonstrate direct nerve connection between the peridental membrane and the so-called odontoblasts. We should have credited these with a vaso-motor function, for, situated as they are at the very periphery of the pulp, closely joining the dentine, it can hardly be doubted they must be peculiarly susceptible to even minute variations in the blood pressure. We must prove the odontoblast cells part of the sympathetic nervous system. Cases have been recorded where an exposed pulp struck by the forceps in extracting, or by a probe, has caused a tonic cramp of the flexor muscles of all the fingers of both hands; in one case the left hand was closed so tightly the patient could not open it and the flexibility of the arms was affected.

Another reason why the pulp should be more thor-

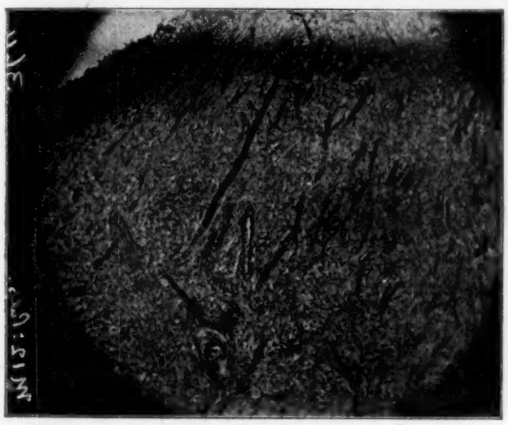

Fig. 3.—Blood vessels of pulp.

oughly studied lies in the fact that it is so often diseased. Kay, Magitot and others report an examination of more than 10,000 teeth; in these, 1,000 showed 18.1 per cent. were affected with pulpitis.

Again, we sometimes forget the strain the pulp is put to; and we must remember that though the teeth are the chief mechanical agents in digestion, they also subserve other functions, namely:

(a) Locomotion (walrus).
(b) Speech (man).
(c) Digging for food (indirectly aiding digestion).
(d) Combat (narwhal, wild boar, tiger).
(e) Anchorage (dinotherium).
(f) Transportation of things useful to the animal (beaver, elephant).

Thus our comparative anatomy must also be looked into to show the varieties of pulps, their location and function, before we can accept our present views. Professor Röse has been doing excellent work in this line.

In considering the structure of the pulp it is almost impossible to avoid discussing the dentine and enamel, as they are closely united in function and type. Huxley says: "Neither the capsule nor the enamel organ takes any share in the development of the dental tissues, all three of them, viz., enamel, dentine and cement, being formed beneath the membrana preformativa of basement membrane of the pulps."

We are told the epiblast forms the mucous membrane of the body, and in conjunction with it the mesoblast—also the foundation of the pulps—but the true mucous membrane (mesoblast) does not develop till the forty-fifth day of gestation, and is in a stage of evolution, while the epiblast cells are completely developed. All cells start alike, but whence this specialization, few, if any, have determined. Teeth are, from a morphologic point, the most interesting structures in the oral cavity. Their development in man and mammals is

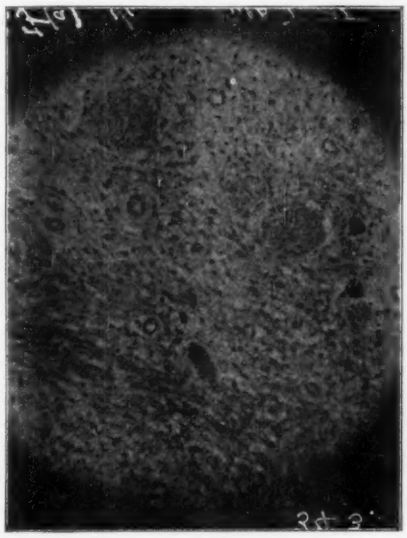

Fig. 4.—Medullated nerve fibers. Pulp.

neither simple nor easily intelligible; in the lower animals we find it the simplest. The teeth are originally nothing else than ossified papillæ of the skin and the mucous membrane. (Compare the development of Selachean's teeth, here we see a simple development of the dental pulp and enamel germ.) The earliest activity is seen about the sixth week of fetal life—different periods in different animals. (Fig. 1.) The enamel pulp or stratum intermedium is seen at the eighth week, but most highly developed about the fifth or sixth

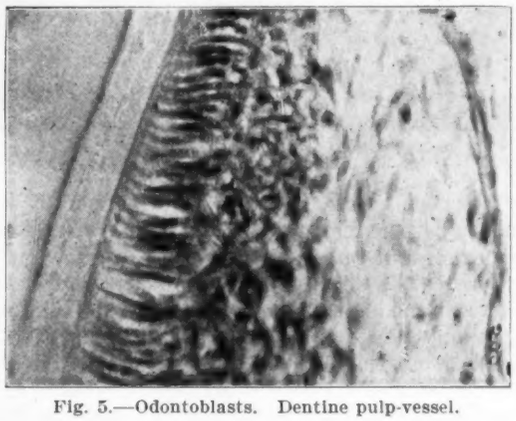

Fig. 5.—Odontoblasts. Dentine pulp-vessel.

month, then diminishes in size up to the time of birth. The dentine bulb appears about the sixth week and becomes conical about the eighth week, when the dental sac of the future follicle shows. Calcification of dentine begins about the sixteenth week of fetal life. About the eighteenth week the sacs of the primitive dental follicles are closed. The salivary glands are found in the second month. First appears the submaxillary gland in the human at the sixth week (Chievitz). Then the parotid at the eighth week. Finally the sublingual (Hertwig).

We all know the epithelial cord is epiblastic and dipping down from the lowest point processes or buds push out. Their growth seems to stimulate the tissue beneath to form little islands which the epithelium envelopes, similar to the index finger being forced into a soft ball and so giving us the illustration known as "the Florence flask stage" (Fig. 2), the under part of the flask being occupied by the subepithelial mass. The flask is also full of epithelium, columnar in variety. The little mass isolated everywhere but at its base is known as the "dentine germ," and sometimes because of its shape given by its isolation the dentinal papilla and dentine bulb and its substance is gradually transformed by a series of changes into dentine, enamel and pulp tissue. All structures are chiefly composed of cells, but those cells on the periphery of each, next to the basement membrane, are especially to be noted, being elongated, well marked and columnar. The pulp germs

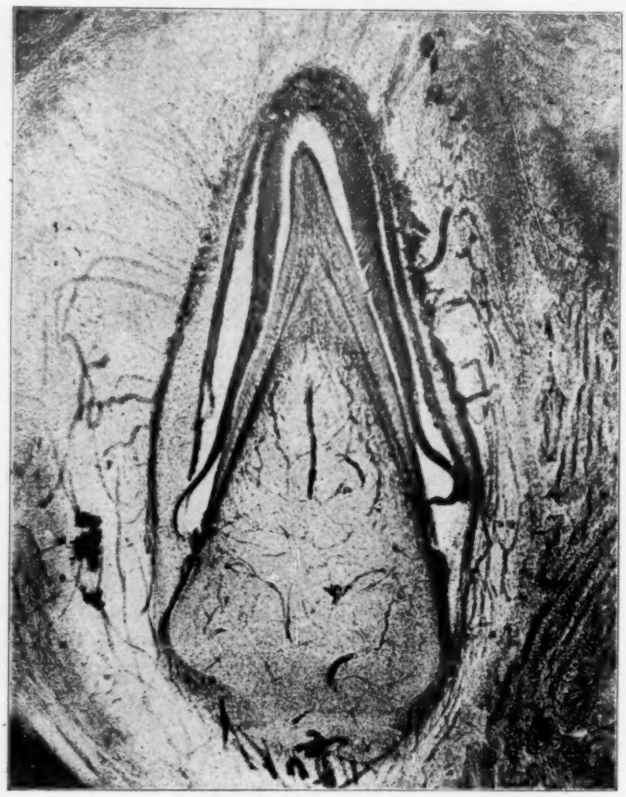

Fig. 6.—Vascularity of developing tooth.

(dentine germs) are also cells, the outermost just beneath the basement membrane are also specially formed. In or around them (opinions differ as to which) the substance called dentine is formed, afterward calcified. The cells immediately underlying them are intermediary and possibly reinforce them when their energy is spent. One question seems to come here: Why should the pulp organ not receive its own designation rather than that of the dentine? Is the dentine more important or is it merely due to the fact that workers were surprised at the specially large peripheral cells, and undertook to study these more minutely, and so found the origin of the dentine? It seems a mistake to have so named it, for its special significance and function is lost, and we had better still regard the island as a "formative papilla" till the various individual structures are well marked and then continue its name of pulp if still so desired. This name is a questionable one, and indicates more of an embryonal stage than a highly specialized organ. Legros and Magitot state: "From the external surface of the dermis (mucous membrane) arises the dentine bulb, or dentinal papilla. Some authors state the papilla arises in the submucous tissue, but to me it is evidently from the dermis" (p. 26). I believe it was the late Dr. M. S. Dean who advocated before the American Dental Association in 1878 that the dentinal papilla may originate from any point of the dentinal sheet of tissue (as described by Dursy) with which the epithelial mass comes in contact; that it is solely through the influence of the enamel organ upon this tissue that the development of the dentinal papilla is induced. If this be true, the origin of a supernumerary dentine papilla is readily accounted for.

Fig. 6a.—Vasomotor nerve supply of pulp. Weigert's method.

This follows and accepts Dr. Magitot's theory "That the enamel organ determines the form and character of the future tooth. Dursy, according to Waldeyer, speaks of the semilunar area of tissue extending along each half of the jaw and from which the dentine germs are developed. They project against the enamel germs while the remainder atrophies. The two horns of the semilunar mass extend from the base of the papilla some distance up and embrace the enamel organ and dentine germ."

Dr. Andrews[3] says: "While the central cells of the enamel organ are changing, the dentine germ is assuming the form of the future tooth point," and this seems to be opposed to Magitot's theory. The more work done leads me to accept this, rather than to give the enamel organ the credit. If we consider the origin, certainly epiblastic cells are first formed, and consequently are older and first in the field, but a section shows we also have the hypo- and meso-blastic cells present, and, looking at

one of the earliest stages we can obtain, evidence is found that the mesoblastic structures are working as well as the epiblastic, though not quite in so well-marked a form. Can the epithelial cord grow without vascular aid? Even if well-defined blood vessels are not present, we have a secretive or plasmatic osmosis passing through the embryonal cells, and very fine arteries or capillaries (Figs. 3, 4, 5 and 6) in our deeper structures. We are told in Legros and Magitot, the earliest dentine papilla contain vascular canals, but Robin and Magitot both deny the presence of nerve fibers. If circulatory vessels are present we must have nerves to control these vessels, and by careful preparation I find the sections about the eleventh week (Fig. 6*a*). Another statement is that at no time during the development of the tissues do the dentinal papilla and enamel organ become united. Sudduth confirms this. Legros and Magitot state that no vessels and nerve fibers have ever been demonstrated as passing from one to the other (Fig. 5). Boedecker disagrees, saying that when we detach the enamel organ from the dental papilla there appears upon the outer surface a delicate fringe which he believes to be the true connection between the enamel organ and the dental papilla. A distinctly marked line is often seen separating the ameloblasts from the odontoblasts, just before the beginning of dentine formation. Later, when the formative cells of the two tissues are separated by a considerable thickness of dentine, we may see a membrane-like structure covering the odontoblasts which appears identical with that bordering the inner ends of the ameloblasts. This seems to suggest there is an original basement membrane separating the tissues from which these different cells originate, and just before commencing to form the dentine it separates and remains as a covering for both amelo- and odonto-blasts.[11]

Fig. 7.—Dentine and enamel organ united.

Fig. 8.—Shows dental follicle or sacculus and the layers of dentine and enamel united.

This statement should be used with a microscopic examination, and here we must outline our layers of tissues. If we consider the bulb as a formative organ—the pulp—add our specialized cells, the odontoblasts, whose character is that of a new histologic chemic structure with a set function, i. e., formation of dentine, to these cells and their membrane, ought we only to apply the term dentine germ or organ when it is a complex structure with complex functions? We have created a special title for the ameloblasts whose analogue is the odontoblast, and in the term enamel organ we must not forget we include other tissues, namely:

(a) External epithelium (Nasymth's membrane Waldeyer).

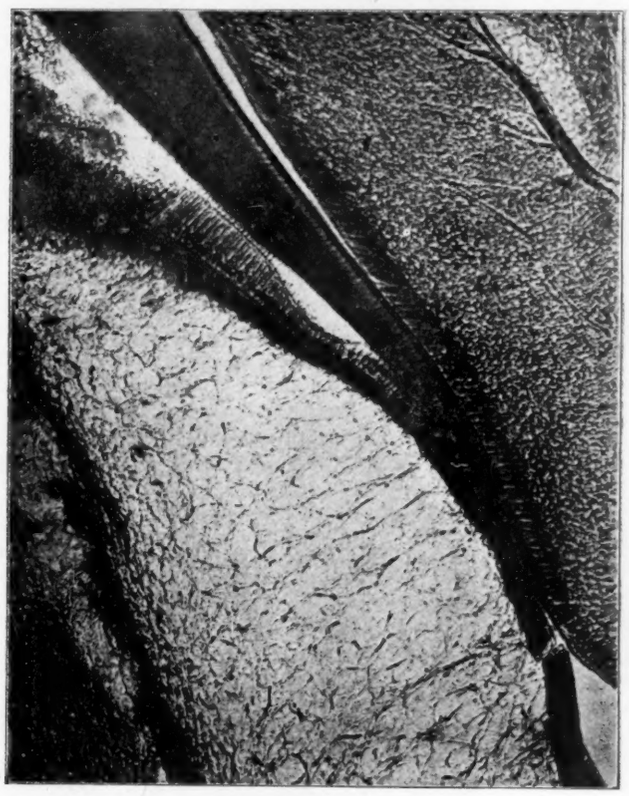

Fig. 9.—Pulp. Dentine enamel with Tomes' fibers and stratum reticulum.

(b) Stellate reticulum.
(c) Stratum intermedium (enamel pulp).
(d) Basement membrane.
(e) Ameloblasts (internal epithelium).

If we use this term we must understand we mean all the layers. The cells of the stellate reticulum are a modified form of those composing the middle layer of the oral epithelium (Sudduth, Williams). The enamel organ is vascular, according to Beale, Howes, Poulton and Williams, but Wedl, Magitot and Legros deny it.

To go back, what did these authors mean in the term dentine papilla and enamel organ, and by stating they were not united? These show they are united (Figs. 7 and 8); but if we mean the ameloblasts are not united to the true bulb, we may find it yet unproved unless we agree that the odontoblast fibers run through the formed dentine and unite with the Tomes' fibers (Fig. 9).

Again, I find that we have the tissues in contact, but only in certain stages of development, and a variation occurs in our different animals for study.

The formative organ consists of many mesoblastic cells and is analogous to the enamel organ, so-called. At a very early stage (six weeks) we can notice under the epithelial cord a faint aggregation of cells which appear deeply stained, showing active proliferation like a spot of round-celled infiltration in an inflammatory area. Gradually a stroma-like outline appears, as if it was going to wrap around the epithelial cord, with a

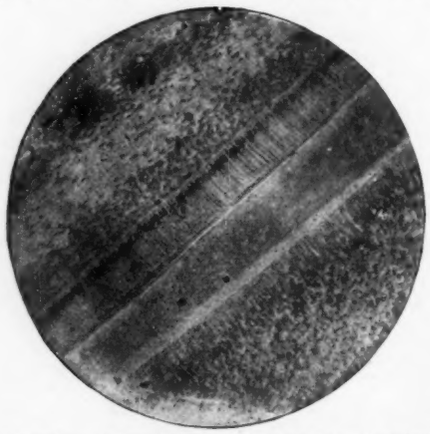

Fig. 10.—Stratum intermedium. Ameloblasts (beaded), dentine, pulp.

dark area at the center of the base, which soon becomes semilunar in shape. Now the lateral areas absorb while the central area rises and builds up a papilla of many densely packed cells, so much so that they cannot assume any definite shape as do the cells of the stellate reticulum, yet leaving below room for the stroma of connective tissue, and a special fibrous matrix of delicate, wavy fibers derived from the cells as seen only if the staining has been especially done, vessels which even pass among the odontoblasts and nerves or plexus. This

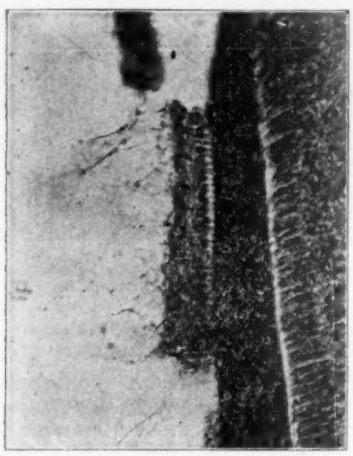

Fig. 11.—Pulp. Odontoblasts. Dentine, ameloblasts and matrix. × 1000

compares with the enamel organ where we have nothing but cells and intercellular substance. This difference, of course, we can foresee when we consider the origin of the two organs. The one is epithelial, a mere dipping down of the epidermis; the other derived from mesoblast or subepithelial—true dermal—layer and so shares its structural changes and marked functions. An apt illustration may make this clear. We have two armies contending for victory standing face to face. The front rank of each army—the enamel organ—composed of its best—the special cells—ameloblasts. The other the fine large odontoblasts; behind these, respectively, stand ready to step into place when needed—the cells of the stratum intermedium and the layer behind the formative odontoblasts, while the center of each host is formed of reserves. (Fig. 10.)

Now, suppose each army is contesting the ground, not by fighting, but by tactics. Earthworks are thrown up, and as each side increases the thickness of his fortifications so the distance between the combatants increases until the ameloblastic army has used up all its reserves, and, being cut off from supplies, the remnant perish, leaving nothing but their outwork standing.

During these maneuvers the dentine army, pleased with a substantial fort (throughout which every care was used to keep their complete system of telegraphic operations), in no trouble for a base of supplies and reinforcements, at last stands at ease. (Fig. 11.)

Their front rank men are tried veterans now, stiffened by disuse as the years go on, nearly forgetting their building powers, once so quickly done. Caries may try to steal in and destroy their ramparts, then must they begin to wake up and repair—but slowly, clumsily at first, better as they progress to form sec-

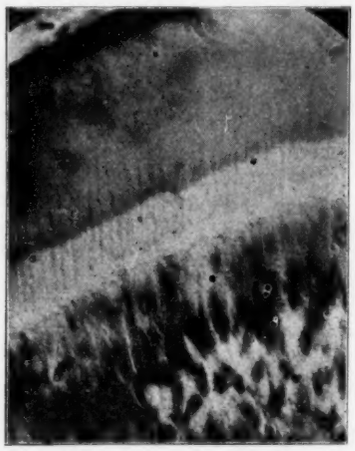

Fig. 12.—Dentine canals, odontoblasts, calcoglobulin.

ondary dentine, and so protect and strengthen the point of attack. If not alarmed by the sentry early enough a breach is effected, and the enemy (bacterial) pours in. But here we enter a new field of devastation and despair, pathology.

The odontoblasts—the true dentinal germ—and collectively making perhaps the membrana eboris of some authors, vary in shape. The ends near the new dentine are wider than the inner part. Artefacts may, and do, occur in our manipulation, but we find cells varying in shape from a banana to a pear, and the old cells are shorter than the active workers. Underwood says: "The cells which commence the work of dentine formation are thought to be smaller than those which complete it, and this, Mr. Hopewell Smith suggests as an explanation of the greater caliber of the fibrils at the pulp end." A view held by Mr. Underwood as more acceptable than the more widely received one, that as the dentine grows older the fibril becomes converted into sheath, the sheath into matrix; but this belongs to the field of calcification. (Fig. 12.) The origin of dentine formation is hardly belonging here, except as we include the special function of the odontoblasts in with the formative papilla under the head of dentine germ. Briefly, as so much is not yet proved and the subject comes under calcification, we all agree the formation of dentine is

due to active cell proliferation. It must be borne in mind that the tissue is formed before it is calcified, and it is easy to show a layer of formed, but as yet uncalcified, dentine, separating the cells from the completed dentine. We note the chief ideas regarding the functions of the odontoblasts:

First. Mr. Tomes' views are generally received, that each odontoblast converts into dentine by calcification of its outer part, the axis cylinder remains soft as the fibril, and between the two is a semi-calcified layer or sheath of Neumann. The subsequent fusion of the conjoining cells shows no line of demarcation, a homogeneous matrix, while the fibrils remain connected with the formative cells.

Second. Klein considers that odontoblasts form the matrix, the cells seen below the fibrils which pass between the odontoblasts. This view also requires a fusion of cells.

Third. Magitot regards the homogeneous substance as the seat of formation of the matrix which is calcified around the soft parts, the fibril remaining connected with the cell, just as the contents of the lacunæ and

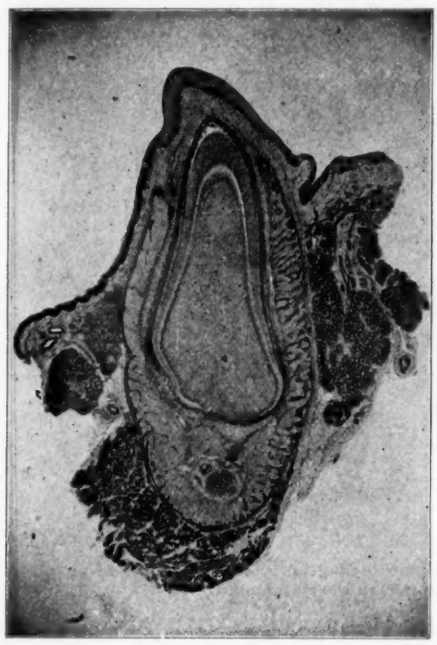

Fig. 13.—Tooth (fully developed) in section of jaw with glands of Serres. Peridental membrane. Inferior dental artery and nerve in situ.

canaliculi of bone remain in the calcified matrix. Here we note no part of the cells is converted into matrix. For some reasons Magitot's theory seems more reasonable and built on a basis with bone and cementum. If the enamel organ is the formative builder of the tooth, why does the dentine begin to calcify at the tip or within its substance first, even though the enamel is formed earlier?

The pulp fibers are the origin of the dentinal basis substance, Purkinje and Raschkow say. Schwann believes the pulp produces an ossified substance and calls it dentine. Baume says the odontoblasts secrete a material which calcifies rather than that they are themselves converted. Waldeyer says the central remains of the odontoblasts are found as the dental fibers. Morgenstern thinks the pulp transudes a substance which contains salts of lime without odontoblastic aid, which is taken up by them, accumulates and passes out of the peripheral border. "The first layer of cells formed on the pulp surface beneath the ameloblasts are not odontoblasts, but develop into fibers, and on the actual surface these fibers blend together and form a membrane which lies just beneath the ameloblasts." (Paul.)

When dentine is forming, Mr. Mummery (1891) showed the appearance of connective fibers in advance of the line of calcification. In young teeth a reticulum of fibers was seen passing between and enveloping the odontoblasts. They seem to originate from the connective tissue in the formative pulp near the odontoblast layer and are evidently the foundation of the dentinal matrix so the lime can be deposited like cartilage matrix to bone.

From a comparative study we must remember the same pulp may make many varieties of dentine, and we will use Mr. Chas. Tomes' table as a reminder:

Fig. 14.—Blood supply in tooth forming. *a*, Plexus under the odontoblastic layer (injected).

A. *Dentine developed from odontoblasts.* 1. Hard dentine, tubes, no vessels, simple pulp (man). 2. Plicidentine, the same folded (myliobates, labyrinthodon, etc.). 3. Vaso-dentine, tubes, containing vessels and nothing else (hake).

B. *Dentine developed from osteoblasts.* 1. Osteo-dentine, channels, containing vessels and all other pulp tissues (pike).

The formative or pulp papilla forms and makes the tooth shape when completed. (Fig. 13.) The enamel calcifies and joins the dentinal organ, this being to the detriment of the pulp organ, atrophies, which absorbs gradually as the tooth grows older, and the primary eruption stage past, leaving the fully formed but smaller pulp to carry on the future nourishment and sensibility of the tooth.

The pulp is the foundation of the dentine germ until after calcification is completed. From then, so long as it is vital, it is the chief source of nourishment, nervous influence and safety to the life of the tooth. It

is able to prevent the damage to some extent of micro-organisms. In its embryonal stage it sustains the odontoblasts in their function. The pulp is the rough miniature of the tooth, but sometimes off-shoots are found running out as far as the surface of the enamel, carrying with them acute sensibility. [12] The pulp is extremely liable to changes, in temperament, disease, thermal conditions, nervous irritability, according to age and the species of animals in which found. The recent (1901) anatomic work of Dr. W. Lepkowski, Cracow, Poland, on the distribution of the vessels in the teeth of man will be a great help.

This monograph is a continuation of his brochure on the vascular distribution in the teeth of mammals, 1897, and I cannot do better than quote his words in relation to the blood supply: "In an embryo, 7 mo., the inferior alveolar artery gives one branch for each tooth germ which enters at its base. As it progresses the walls thin so that they cannot be distinguished from the veins accompanying it." (Fig. 14.)

The vessels rise to the apex of the pulp and there spread out fan-like from the point to the base of the tooth germ as capillaries. They proceed between the odontoblasts up to the dentine layer and there form broad loops, which unite to each other. At the base of the tooth the vascular net is always denser and more interwoven than toward its point. This arrangement of vessels follows the arrangement of odontoblasts. With carmine-stained specimens a broad seam of odontoblasts show at the base of the tooth germ just where the vessels also are present in greater density; towards the apex of the tooth germ, the breadth of the odontoblast seam decreases and then the network of the vessels becomes more loose. This is easily explained, for it is on the base that new substance is deposited for the tooth, and the vessels and odontoblasts are chiefly concerned in the process. The vessels which externally surround the enamel organ are connected with the pulp vessels. (See Fig. 6.) The vessels originate in the inter-alveolar arteries which supply the spongy bone of the maxillæ. They spread out in dense weave at the surface of the enamel organ, but do not, however, penetrate between the cylinder cells which line the enamel organ and play an active part in the formation of the enamel; where more enamel exists the network of vessels is denser. (Fig. 15.) When the activity of the enamel cells ceases, the vessels also slowly undergo a retroformation. Within the tooth the formative activity of odontoblasts and vessels continues until the dentine of the crown and roots is built up. The disappearance of the vessels on the enamel organ begins at the summit of the tooth, and proceeds in the direction of the root. Of the pulp vessels, individual vessels or also bundles of them occasionally separate, perforate in places the dentine layer and the enamel layer and obtain connection with the vessels surrounding the tooth germ on the outside. In dogs the enamel thickness is greater than in the human teeth, hence they have a richer vascular system.

When do the odontoblasts first appear, and if the odontoblasts are nerve cells they must be of epiblastic origin, are questions I have not yet decided.

So far the vascular supply of the odontoblasts seem fairly well proved to be a plexus, and with it comes up the nerve plexus of Raschkow (Fig. 16), and Boll stated that the fibrils inosculate with the branches of the odontoblasts. Clinical phenomena favor such a conclusion. Thermal changes can be perceived long before the plexus or pulp is exposed; and why should such stimuli as dilute acids or slight touches of a steel instrument be felt if no path between the soft tissues of the dentinal and nervous system existed? The thermal changes might pass, but hardly the effects of a dilute agent as $AgNO_3$, $ZnCl_2$, without a nervous system of communication.

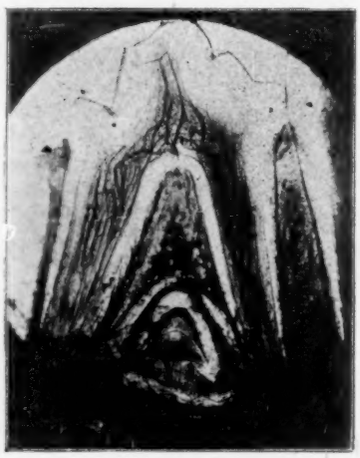

Fig. 15.—Deciduous molar and permanent bicuspid of a child (injected). Vessels in periosteum.

Fig. 16.—Nerve plexus of Raschkow and Boll in pulp. Medullated nerve bundles (special staining).

Another disputed point is, whether or not besides the nerve endings in the pulp there were also nerve endings in the solid portion of the tooth, while some believe the nerve fibrils end only among the bodies of the odontoblasts, at the periphery of the pulp; others think that they may actually penetrate the dentine itself, inasmuch as it is known that if the gum be retracted, the dentine is sensitive at the margin of the enamel. Some ask the question, do the nerves of the dental pulp originate in the odontoblasts? We say no, they are entered from the apical foramen and pass upwards as medullated, and then lose their sheath and go as nerve fibrils to the odontoblasts as a plexus. (See Fig. 16.) If odontoblasts are secretive, may they not be hypoblastic and so explain their columnar shape and function as well as forming the mesoblastic layer which is really the connective tissue matrix, but has a characteristic point that in this tissue the fibrils never join to form connective tissue fibers. We may have nerves ending in connection with these epithelial cells, just as we do in the gustatory cells, olfactory cells, etc. I do not remember seeing any particular statement or work stating, or even

demonstrating, the reason why we have placed the odontoblast cells as mesoblastic. If we decide odontoblasts (membrana eboris) to be dentine builders, secretory cells, cannot they resemble the special epithelium products as do the secreting glands—buccal, pancreas—which are originally developed from a layer of epithelium, both epi- and hypo-blastic, by an invagination or downward growth of cells covering in the consolidating (mesoblastic) connective tissue formative cells. The apex is the first differentiating point with a gradual descent on either side of the conical bulb till it reaches the neighborhood of the cement region, the odontoblasts ending here in many slides at this stage. Compare the glands of Lieberkühn in the intestine, simple tubular and those of frog's skin, simple sacs. The differences are for the most part modifications of arrangement, with a view to increasing the secreting surface at the cost of as little space as possible. Whatever degree of complexity in a secreting area, its essential points remain the same. A layer of secreting cells (epithelial) usually on a basement membrane, surrounded by capillary blood vessels, supported in connective tissue, bathed by lymph passing through the spaces in the matrix—cells varying in shape according to their location, pressure and function. We must remember we have two distinct layers of epithelial cells in the epithelial band—the lowest, the

Fig. 17.—Termination of sensory nerve-fibers within the epidermis. (Gold staining.)

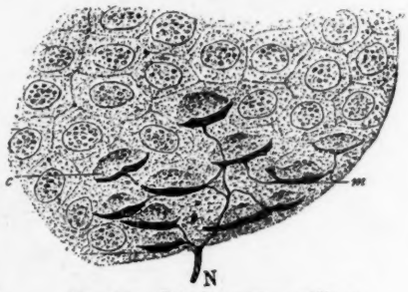

Fig. 18.—Special nerve endings within the epidermis. (Gold staining.) (After Ranvier.)

From Piersol's Histology, p. 84, Fourth Ed.

stratum Malpighii being polygonal columnar and forms the germinal layer—a possible combination of hypoblastic epiblast, and again in some specimens joining the mesoblast. Here is room for investigation if the hypoblast may not be the origin of the odontoblasts? We know the Coelom theory of Hertwig has received many careful supporters in the light of present researches. A careful study of slides will show in some animals a marked differentiation into two layers of the inner tunic of the enamel organ nearest the formative pulp surface in some places united, in other places they have been separated, one following the enamel organ, the other remaining on the apex of the pulp. In further stages a deposition of homogeneous material is being laid down, on this line between the two layers and at a different rate of growth. The most important point seems to me to prove the origin of these cells, to study their function; because, if pure secreting epithelium, if odontoblasts are of connective tissue origin as described by Piersol and others, if sensory nerve organs entering the tubules, it is evident we can hardly have described their function correctly. It may be asked, is the odontoblast of connective tissue origin—morphologically identical with nerve cells and axis cylinder fibers (Boll, Morgenstern, Römer), or analogues to bone, differing by being derived from embryonal connective tissue—having fibers passing into the dentinal tubules, similar to the soft, uncalcified perforating fibers of Sharpey. (Kölliker.)

When a tissue is found foreign to its position, we call it a pathologic condition, and in this connection I wish to call attention to those specimens of myxomatous pulp whose whole surface is covered with pavement epithelium, of which I have specimens. I believe Dr. Baker,[10] England, also showed a specimen in 1892 at the British Dental Association, which was covered with squamous epithelium, and Römer has lately called attention to this condition. Can these be inclusions originating from the epitheliaal cord, or an overgrowth like a papilloma? Both Dr. R. T. Stack, 1897, and Prof. Tomes, Dentz of Utrecht, and Mummery have called attention to the bulbous dilatations in connection with the dentine tubes. If processes of the odontoblasts are pulled out, and traced to show the ramifications of the tubules, and so on to definite endings in the enamel as a bulbous shape in ground sections?

Is it yet proved how far the dentine of a tooth with-

Fig. 19.—Nerve supply of the pulp and its vessels. (Weigert.)

out a pulp may be considered dead? How far nutrition in the sluggish form required by dentine may not be carried on in the collateral plasmic circulation through the cement corpuscles, and these bulbous or fusiform dilatations in the dentinal tubules more especially being found in temporary teeth dentine. In teeth with incompleted roots they are numerous as well as in those irregularly placed in the mouth and which are imperfectly developed, says Patsch. So far as I have gone in my experiments on special staining, I have, I believe, obtained some slides that show the nerve relations and arrangements of the odontoblasts that will be given later. (See Fig. 19.) At present, the best illustration that I know is under the termination of the sensory nerve endings. We know the medullated nerve fiber loses its medullary substance (white matter of Schwann) before reaching its ultimate distribution. They are especially plentiful in the sympathetic system as well as in the cranial nerves and the olfactory. Whether the fiber be motor or sensory bears no relation to its size, the length seems to directly influence its diameter, since we find long distance fibers are thicker than those only going short

distances, and this may account for the very small nerve fibers in connection with the odontoblasts.

Whether we can liken teeth to the organs of special sense is not yet proven, but I think a brief review of the peculiar modifications of shape and structure which the

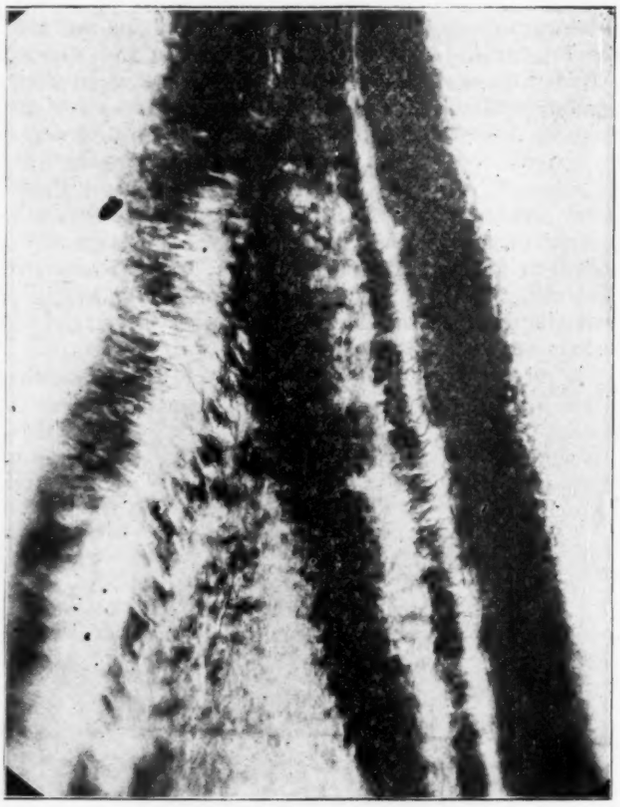

Fig. 20.—Terminations of nerve fibrillæ within the odontoblastic zone, apparently passing into the intercellular substance of the odontoblasts, which are out of focus. (Stained by Freud's gold method.)

epithelial cells undergo and form the organs in which the nerves terminate as neuro-epithelium will illustrate my findings in the nerve relations of odontoblasts fairly well. Anyone who has done special histologic work in isolating neuro-epithelium from the nose, rods and

Fig. 21.—Medullated nerves in pulp, passing under the odontoblasts. (Special staining.)

cones of the retina, hair cells of Corti's organ and other parts of the membranous labyrinth, the taste-buds, can find another example in the teeth. Briefly, two elements are found, the nuclear and the outer, peripherally-directed segment, which is highly specialized and often ends in stiff, rigid, hair-like processes. The outer part receives the external impressions, whilst the inner segment is in close union with the nerve fibers. Within the Malpighian layer we find the tactile cells, simple or compound. The former, small, oval, nucleated cells, possibly modified ganglionic. The terminal fibers pass between or on the side of the tactile cell, and are lost in its substance.

In the pulp we find the nerve fibers originating from the medullated nerves, becoming non-medullated and smaller until the neurilemma disappears and the bundles of new fibrillæ continue as naked axis cylinders, forming a ground plexus; these later fibrillæ break up into their primitive, which, interlacing, form terminal plexuses just beneath the odontoblast layer (Fig. 20), near the line of cell bodies or basement membrane, which, so far, I believe, is not demonstrated, but is best known and described as the basal layer of Weil, and as such more easily placed. The nerve plexus fibrillæ cross this

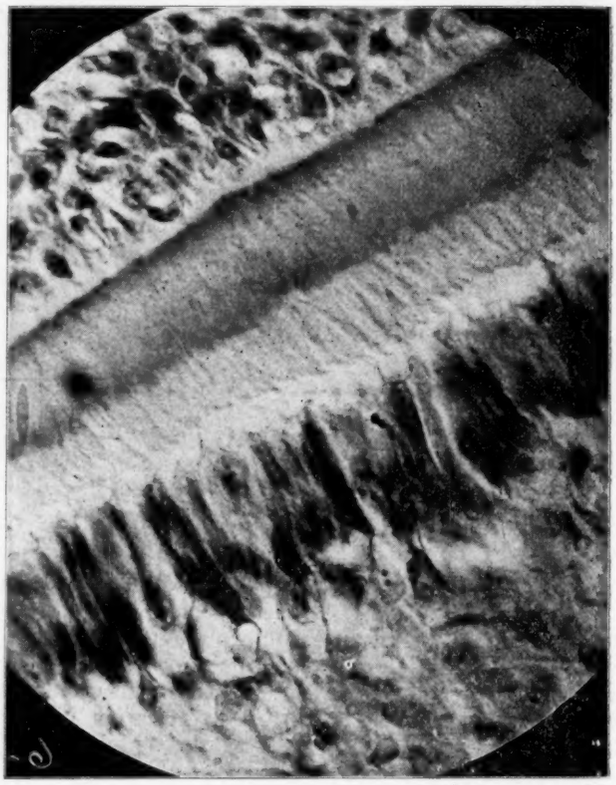

Fig. 22.—Odontoblastic area.

in T.S. developing teeth (cut by the freezing method or by Weil's, stained in borax carmine—gold chlorid), and run between the odontoblast cells. The majority so far being lost sight of, but here and there fibrillæ may be seen passing beyond the periphery of the cells into the forming dentine, and specimens show the same, as well as odontoblastic processes. (Figs. 21 and 22.) Whether blood vessels are found stretching beyond the cortical layer of the pulp into the basal layer of the membrana eboris, has been denied, as well as even the existence of this layer by von Ebner. It is in the crowns of teeth (fully formed) where the basal layer of Weil is most marked, below the layer of dentine that is first completed, says Mr. Mummery, and his description of the fibers passing from the pulp between the cells to the dentine across Weil's layer, showing vessels in the basal layer, I concur in.

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DISCUSSION

ON THE PAPERS OF DRS. ANDREWS (ISSUE OF JUNE 21, p. 1619) AND LATHAM.

DR. M. L. RHEIN, New York City.—I do not think there is any more important subject in our specialty than that of the pulp. It is impossible for me to discuss Dr. Latham's paper as it deserves, from merely hearing it read yesterday. It is so replete with pertinent inquiry and valuable data that it requires a very careful study of the details.

The large percentage of pathologic conditions of the pulp is a point conforming closely to clinical practice in dental work and is highly important in our consideration of the pulp question. When we consider the nature of the pulp we appreciate the difficulty in finding a normal, physiologic pulp after maturity. With the congestion of the vessels there is a departure from the normal pulp. I have long been under the impression that the average dental practitioner has a very small conception of the enormous percentage of pulp nodules in various stages of formation in pulps which they remove. These pulp stones unquestionably go through a series of formation. In our microscopic work we have learned to differentiate the nodules resembling little pointed diamonds and the seed-like formations. The fact brought out by Dr. Latham that these nodules are found at or near the apex in some cases and in others toward the coronary portion is also very interesting from clinical experience. My own theory is that they are largely due to inflammatory action that has proceeded from the exterior through the dentine. I have never seen them unaccompanied by external breaks in the enamel and tooth structure. On the other hand, I commonly open a tooth on a diagnosis of pulp stones and find none until I reach the end of the root, and this in teeth without break on the outer periphery of the enamel. It seems logical that these nodules are due to the lime salts through some irritation in the blood supply being deposited in the cell tissue. My discussion is not from the microscopic standpoint, but entirely from the clinical.

Dr. Latham spoke of the results of embolism in the arteries as a result of pulp removals and the trouble following such engorgement. The point I want to consider is what relation has the removal of the pulp on the circulatory condition of the peridental membrane. From clinical experience I believe that in many cases there has been no break in the enamel structure, but when the pulp tissue is pathologic there has resulted loosening of the teeth, elongation of the incisors and pyorrheal symptoms. This condition has been cured by the removal of such pulps. My own view is that the grave pathologic condition of the pulp interfered with the nutrition of the peridental tissue coming from the dental artery. It does not seem unreasonable that through a perversion of nutrition due to a pathologic condition the pulp is affected and possibly the formation of pulp stones fostered. Is it natural to say that the pericemental tissue is not deprived thereby of its natural source of nourishment; and when we cut off the entrance of that amount of blood at the end of the root is it natural to suppose that the pericemental tissue should not receive the benefit of that additional nutrition.

I should like to ask Dr. Latham whether the glands she has had under observation show a physiologic or pathologic condition. In the use of the radiograph in dental work I have found in a large number of loosened teeth these glands well defined.

DR. R. R. ANDREWS, Cambridge, Mass.—I am not in a position at this time to discuss Dr. Latham's paper. I should want to read it over carefully and could not do it justice otherwise. In it there are many new problems presented. I shall therefore speak of the tooth as we see it while studying it through the microscope. I believe the odontoblastic layer continues to grow as the tooth elongates. The formation of the dentine germ takes place nowhere near the hypoblastic tissue. What I fail to see is how any hypoblastic tissue can get to the region of the forming teeth. There is a great deal of discussion about the basement membrane. I do not believe there is any such thing as basement membrane. We find the appearance of a layer in the dentine when it calcifies, and when the enamel is formed we find a similar layer. This layer, called by some a membrane, is to my mind the first stage of calcification and has no appearance of being a membrane. I can not imagine how it is possible in that tissue to find a hypoblastic tissue. I confess I am not fully up in the recent literature of the subject. Most of my work was done several years ago. This work is the work for young eyes.

In regard to the calcification of the pulp. When it is irritated in any way from the cemental surface cells within the pulp are stimulated and there is a beginning of cell calcification. This calcification irritates other connective tissue cells, and these form osteoblasts, which continue the process. This may be local or general. I have seen pulps in which there are spicules of bone forming all through it, and sometimes secondary dentine formed on the edge of the pulp, by the odontoblastic or formative layer of cells. In this form the fiber cells, which line the pulp (the pear-shaped cells) form a fiber only a little distance in the new formation of dentine, but all the other cells take on activity as in the deeper portions of the pulp, when calcification nodules are forming. Nearly the whole pulp of an elderly person may calcify.

DR. EUGENE S. TALBOT, Chicago—In my dental histologic work it has been impossible to find many pulps to be considered normal. Pulp stones are common in teeth with exposed roots, the result of interstitial gingivitis or pyorrhea alveolaris. We are now experimenting on the third molar tooth which can be easily secured in all stages of development. The pulps are in a formative stage in most all of these teeth, and I believe better results will be obtained from the third molar, except where teeth are extracted for correction of irregularities.

DR. ANDREWS—Dr. Rhein spoke of the immense number of pathologic pulps. We must remember that we examine mostly those which have been extracted for cause. The largest proportion of pulps in living teeth are normal. That is a correction which I wish to make.

DR. G. LENOX CURTIS, New York City—It seems to me that little has been said on the physical condition of these people from whom the pulps have been secured. That opens up a subject which should be investigated. My experience is that the patients have histories of long illnesses and that their physical condition is far below normal, yet I have felt that this observation was contradicted when I have seen patients who gave histories of perfect health from childhood and found these nodules in apparently perfect teeth. I have seen pulp stones in old, in diseased, and in apparently normal teeth and have found them of various kinds and sizes, some were just barely visible under a powerful magnifying glass and others filled the entire cavity.

DR. A. E. BALDWIN, Chicago—In all our investigations we must have a standpoint, and that must be the normal, or condition of healthfulness, and I can conceive how two people of like earnestness may arrive at totally different conclusions because of the starting-point of each. The medical student listens to the breathing of the patient and observes the general conditions. He should be excluded from the sick room and observe only those said to be in health so that he may arrive at a perfect knowledge of healthful conditions before examining disease. We are too apt to start on the observation of disease. We must know first the conditions in health.

DR. E. A. BOGUE, New York City—Dr. Latham spoke against the too frequent extirpation of the pulp, taking the ground that the pulp was not only the formative organ, but that its persistence in life was the health of the tooth. Recently in operation I found a condition of senile decay. Later, asking my son the definition of senile decay, he said he supposed it was a con-

dition existing when the pulp chamber had been filled or nearly so with secondary dentine, thereby depriving the tooth of its nourishment and of that feature which we call vitality. Hence, the tooth breaks down readily. I think the answer bears on the information given us by Dr. Latham, and on the advice of those gentlemen who advise extirpation, on slight grounds, of the pulp in the apparently normal tooth. The remaining tissues of a tooth which has suffered extirpation of its pulp are placed in the condition of the senile tooth. I think we should emphatically condemn the too frequent and unnecessary extirpation of the pulp.

DR. M. L. RHEIN—What is an early age and what are normal pulps are mooted questions, and the most important question is which is the lesser evil of the two. I think all dentists recognize the evil they must do in removing pulps for certain pathologic conditions, but they are committing what they consider the lesser evil. He prefers to do that and preserve the stability of the root of the tooth, for as practical men we know that if we can preserve the integrity of the attachment of the root to the peridental tissues, as far as the crown of the tooth is concerned it matters very little. Dental art has reached such a stage that that part of the tooth can always be made presentable. I only want to press the point: Which is the lesser evil, the loss of the tooth entirely at a very early period or to preserve the root?

DR. ANDREWS (in closing)—In regard to the merging of the odontoblasts and fiber cells, the question has been much discussed. The joining or merging of cells, as the pulp grows smaller, and the newly-formed tooth closes in on it, actually takes place. I have seen them merging together, or thought I did. There are many points I would like to hear discussed, but I do not think they had better be taken up at this time.

DR. LATHAM (in closing)—I am not discussing pathology. That could be better taken up twenty years hence. The point is, on what is the tooth structure based? I take the argument that it is based on the formative organ, the pulp. I am not discussing the formation of dentine, enamel or anything else. I want to get back to normal histology and I do not like such terms as myxomatous tissue. This is but beginning work. My time has been spent in collecting material. I have taken up the theories of the function of the pulp, not pathology. The pulp is a more important organ than we will allow. The nervous mechanism of the pulp is not proven. The histologic basis is not proven. Professor Paul and myself, I believe, are the only two that have made special effort to prove that there is more of a basal structure to the pulp than most investigators have allowed. I have also labored to secure the nervous mechanism, and I believe that the photograph which I showed demonstrated the vaso-motor connection with the pulp. This I hope is practically put on a foundation, microscopically, clinically and photographically. The connection with the odontoblastic layer I am trying to prove, and have succeeded in tracing the nerve fibers to that point, but have not had time to continue the connection into the cell. The work has been carried on for about fifteen years, including the making of many modified stains, etc., and to-day it is imperfect.

Then the structure of these cells I have not taken up. I have taken up other people's theories and I have argued my paper on these, because to get back to the origin of the odontoblasts we must consider function and physiologic relations.

The connection of the pulp stones I argued on Dr. Anderson's paper, not on my own, and showed my photograph to prove her paper. I mentioned that in my sections these calcareous bodies were formed all the way through. The origin of these is another thing. If they are found, how can they be formed from the odontoblasts? I rather think they can not be, unless we have the odontoblasts in this connective tissue working in a way we do not realize. I want my work to be based on general histology. I do not want the dental tissue with no other analogy in the human body, hence I have been working on the origin of the odontoblast, the blastoderm and the function of the secretory organs, but I have not proven the points. Further, I would say that a good deal of argument has been based on pathologic conditions. This paper is simply to show you that when one speaks of the enamel organ forming he speaks of a number of layers, and not one only. The points of this and future papers is to prove the nervous relations, the structural basis of the pulp, the varieties of the odontoblasts, which is the true odontoblast, which the formative cell, and its vaso-motor and functional connection with the tooth, and then later, take up the pathologic function. This work is illustrated by carefully prepared photographs untouched, and I hope to get something that I shall call a normal pulp to make a basis for the work.

PRURITUS ANI.

STRONG HEAT ITS BEST REMEDY. NEW APPARATUS FOR ITS APPLICATION.

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Every practitioner laments the inefficiency of the treatment for pruritus ani. Only a few surgeons seem to know that very strong heat almost instantly quenches the torment of itching in any part of the body, and that the relief thus obtained generally lasts from one to several days, but the anatomic form of the anus is such that its verge, which is the principal seat of the pruritus, is situated high up between the nates or a little above the summit of a hollow cone, and so covered with folds of integument that it can hardly be reached by heat-bearing appliances. Sometimes hot douches and heated wet compresses prove effectual, but generally they do not reach the real spot whence the distress of the patient emanates. The surgeon's advice to apply heat is good in principle, but it does not enable the clumsy patient to make his applications reach the apex of the anal cone.

Before proceeding to describe the instrument designed for this work, it will be best to consider the principles involved. Pruritus, or itching, may exist in any portion of the skin or adjacent margins of mucous membranes. It is often a neuralgic affection, due only to the nervous system, but it may also arise from inflammations of the skin or the presence of toxins from pathogenic microbes, or from parasites and other external irritants. Whatever the cause and wherever the location may be the application of heat as strong as the patient can tolerate quenches the itching, and in a few moments brings relief which lasts many hours, and often many days.

In a former article I referred to a domestic practice which seems to be totally unknown to dermatologists. Northern farmers, teamsters and wood choppers are troubled in the winter with acute pernios, or chilblains on their feet. These are not usually confined, as asserted by dermatologists, to debilitated patients. They are the plague of the most vigorous and robust men. In appearance these pernios are insignificant red spots on the feet and toes. They are only slightly swollen and a little tender, but they have regular periodical exacerbrations of pruritus. Once in 24 hours they awake into special activity and afflict the patient with violent itching, which lasts some two hours or more.

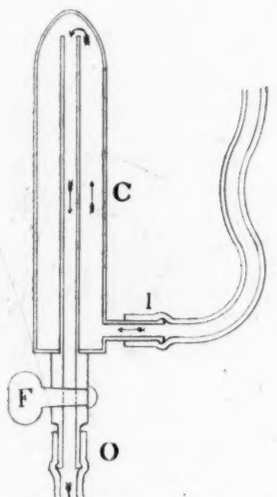
I have found existing among these men the following treatment. When the exacerbation comes on, the patient takes off his boots and stockings, throws open his stove door and holds each chilblain for a minute or two before the fire in a position where it will receive the radiant heat of red hot coals. He holds the part as near the fire as he can tolerate with the help of considerable fortitude. Having thus treated all the pernios the pruritus is completely relieved, he draws on his hose and boots and remains perfectly comfortable until the next

day. He then repeats the process, and in three or four days is cured.

One farmer with pernios said he could not get a good effect from the dark heat radiated from the outside of his stove. He required the luminous heat emanating from red hot coals. Another patient living in the city had two patches of psoriasis, which had lasted him several years, and for which he had taken arsenic a long time in vain. In some way he discovered the benefit of heat, and relieved the pruritus by dripping a small stream of very hot water upon the patches. Occasionally he got the same relief by holding the parts above the chimney of a lighted lamp. After some months of these occasional hot applications he obtained a permanent cure.

Many other patients having pruritus from psoriasis, eczema and other causes have discovered the relief obtainable from strong heat. The emperor Napoleon I. had a life-long eczema on his thighs which caused him serious torment. His physician said he spent much time sitting in hot baths, where "he was continually reaching for the hot water faucet" to increase the temperature. I have found intelligent patients who had discovered that very hot douches relieved them of pruritus ani.

Authors of works on rectal diseases have generally



been ignorant or negligent as to this remedy, but a few of them have recognized its value and emphasized the necessity of making the heat strong. Mr. Treves, of London, says, "bathe the parts in very hot water." Dr. Joseph Mathews, of Louisville, says, "the parts should be bathed in as hot water as can be endured." Van Harlingen, of England, advised "hot water douches as hot as the skin will bear." Kelsey, of New York, directs "very hot water, and to be of any use it must be applied as hot as the finger can bear." In my own publications (Rectal and Anal Surgery) I have long advocated "hot water—as hot as can be borne."

The highest heat which is endurable is about 130 F. Some patients will tolerate for a short time a small stream as high as 135°. I have never found any who could endure 140°. Many cannot go above 125°. It will be remembered that a full length hot bath cannot be used above 105°, but small local spots bear for a short time the higher temperatures above mentioned. To enable patients to apply sufficient heat to the anal canal without the risk of their injecting water at a dangerous temperature into the rectum itself, I have devised the instrument here shown in sectional view.

The pipes have an inside diameter of one-eighth of an inch, and the cylinder of three-quarters of an inch. The inflow pipe is simply a rubber tube leading down from a fountain syringe or other reservoir filled with water of the proper heat and hung about 4 feet above the patient's anus. Attaching the rubber tube to the nib projecting from the side of the cylinder, turn the round end of the latter upward and open the faucet F. The water will then expel the air and begin to run from the outflow pipe. Now close the faucet, lubricate the cylinder and insert it about two inches into the anus. Then open the faucet again and let the fluid run until the hot water begins to appear and the cylinder becomes as hot as the patient can properly bear. Of course, the reservoir must not be filled with water dangerously hot. It can be tested with the fingers or with a thermometer in the reservoir. In cases where tissues of the anus or of other parts are much weakened by paralysis, or by exhausting disease, I presume very high heat should not be applied.

The patient can be taught to use the instrument himself if he is reasonably intelligent. The position may be either lying on one side with the knees drawn up, or sitting obliquely on one hip, or astride a chair with the hips projecting over the edge. The treatment can be repeated from twice a day up to intervals of several days.

Of course, the surgeon will diligently examine the parts and seek to remove all discoverable causes of the pruritus, thus preventing relapses, but strong heat is the great primary remedy for the patient's sufferings. It is more than a mere temporary relief of his distress. By removing the tormenting irritation it gives the nervous tissues repose and helps to restore the parts to a healthy condition. and this principle holds true whether the pruritus be in the anus or in any other part of the body.

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ELECTRO-THERMIC HEMOSTASIS IN ABDOMINAL AND PELVIC SURGERY.*

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At the last meeting of the American Medical Association, in a paper with the same title as the present one, I entered into the comparative merits in hemostasis of the ligature, angiotripsy and electro-thermic pressure.

Brief reference was made to the development of electro-thermic hemostasis in the crude application by Keith of a hot iron to the compressing blades of a pedicle forceps. Credit was given Dr. Skene for devising and using instruments with a heating medium concealed and insulated within one of the compressing blades, therefore, for the introduction of electro-thermic hemostasis. I stated that the essential element in this form of hemostasis was a rapid source of heat in one blade of an instrument giving the proper amount of pressure. My own instruments were demonstrated, showing many points of improvement and practicability over Dr. Skene's. A limited number of cases with this method of hemostasis were cited. The object of the present paper is to present a greater variety of cases to prove the possibility of the common use of electro-hemostasis in place of the ligature in abdominal surgery and give its

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

special indications in hysterectomy for cancer, salpingectomy and appendectomy.

EXPERIENCE IN VARIOUS OPERATIONS.

The following operations were performed, using electro-thermic hemostasis and occlusion exclusively: hysterectomies, 12; ovariotomies, 4; salpingo-oöphorectomies, 20; appendectomies, 42; intra-uterine removal of submucous fibroid, 1; rectal polyp, 1, and 5 cases of hemorrhoids. The experience in hysterectomy, vaginal, abdominal and combined, proves the possibility by this method of doing these operations practically bloodless and that the only blood in many cases that need be seen, after the primary abdominal incision, is where the cervix is encircled by incision per vaginam or the vesical and rectal reflections of peritoneum are incised through the abdomen.

THE METHOD DETAILED.

To exemplify, a vaginal hysterectomy—the uterus being delivered as a whole, the cervix first—is performed as follows:

After encircling the cervix as in the usual operation the anterior and posterior reflections of peritoneum are entered. The blades of the large electro-thermic angiotribe are made to grasp the broad ligament from the side of the cervix to outside of the ovary in one grasp if possible. Gauze packing is carefully used for protection, the current turned on not over forty seconds at the proper amperage and the blades removed within the succeeding twenty seconds. Section is made on the uterine side of the blade, but if a bloodless section is desired it should be made through the white desiccated area left after the removal of the blades. The opposite broad ligament is treated in the same manner and the uterus delivered. One vaginal hysterectomy was thus performed. In five others the fundus was brought back through the post-cervical incision, so that the ovaries and the tubes could be more easily inspected.

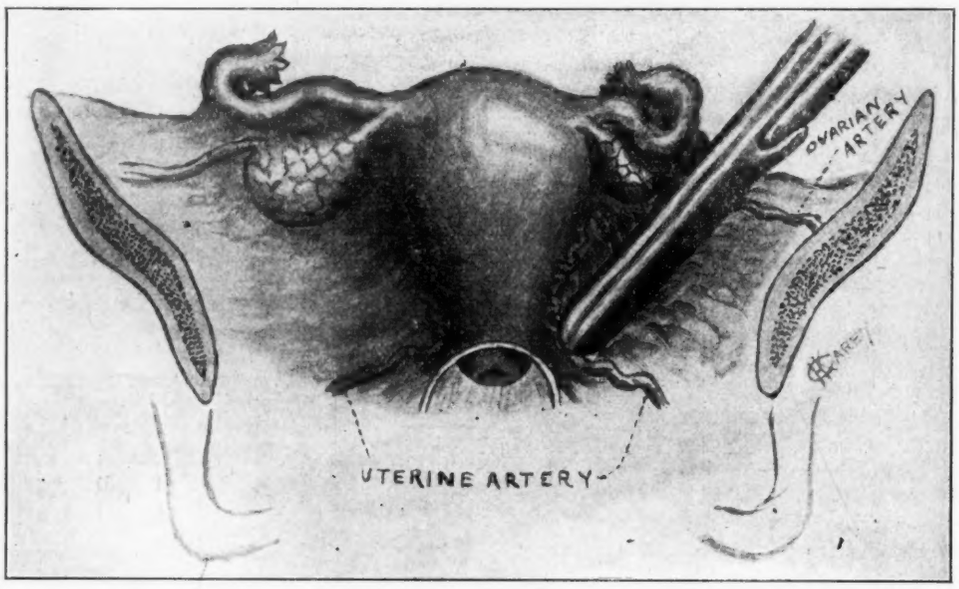

Fig. 1.—Uterus with blades of angiotribe in place on broad ligament.

By this method it is more easy to crowd the broad ligament into one grasp of the angiotribe. The protection of the bowel and the adjacent tissues is also more easily effected. Of the five vaginal hysterectomies thus performed, two were for cervical cancer in which the only difference from this description was an amputation at the same sitting, by a heavy cautery knife, of a malignant cervix to well above the disease so that the field would be free from the possibility of implantation. One of the vaginal hysterectomies was in a case of senile endometritis in a retroverted adherent uterus secondary to a double salpingo-oöpherectomy, with silk ligatures, by a prominent surgeon a year previous. The entire occlusion of the broad ligament of each side in one grasp of the blades of my angiotribe was easy and section through its track was bloodless. One of the vaginal hysterectomies was performed under spinal anesthesia on a feeble old woman of seventy-two years. The case was one of complete prolapse with suspicious ulcerated bleeding cervix subsequently proved to be non-malignant. Two other vaginal hysterectomies were for complete prolapse and had at the same sitting perineorrhaphies performed. In all six of the vaginal operations the deliverance of the uterus was practically bloodless. Of the abdominal hysterectomies one was supravaginal on a moribund post-puerperal case six weeks after labor. Both tubes and ovaries were purulent and there were pus foci in the uterine fundus. The tissues were necrotic and crushed under the angiotribe, yet no ligatures were applied. Two were abdominal pan-hysterectomies for large fibroids. Three were vagino-abdominal pan-hysterectomies, one of which was for advanced cancer in which the cervix was first removed by the cautery knife, the abdomen then opened and the remainder of the uterus removed. Excepting my last abdominal pan-hysterectomy for a very large fibroid the abdominal hysterectomies were practically the same. The blades of the angiotribe were made to include the broad ligaments from the outer side of the ovary down to as near the cervix as possible with a view of including the uterine artery where it crosses to run along the side of the uterus. In some cases one grasp of the blades sufficed, in others more. Section was made in most cases through the compressed white track and in such cases was bloodless with proper technic. The opposite broad ligament was treated in the same manner.

VARIATIONS IN TECHNIC.

If the operation is a supravaginal one the balance of the work is the same as with the ligature. The cervix is cut across wedge-shape and sutured. If it is to be a pan-hysterectomy after the application of the angiotribe to each broad ligament as low as possible the completion of the operation is as follows:

The utero-vesical and recto-uterine reflections of the peritoneum are incised as low as possible and the vagina entered in front of and behind the os uteri. The electro-thermic forceps with blades one and one-quarter inches long are placed to the sides of these incisions so that they grasp the paracervical broad ligament, the end of the forcep blades extending into the vagina. For non-malignant uteri the current need never be on longer than

twenty seconds. Section on the uterine side of the blades releases the uterus. My third case of uterine cancer was a case of pan-hysterectomy treated as above with a preliminary cautery knife vaginal amputation of the malignant necrotic cervix. The paracervical tissue was involved and for this reason the small forceps applied as above described were allowed to remain on the paracervical broad ligament and press outwardly for a minute with a current acting that caused water placed on the blades to boil in five seconds. For hemostasis alone this is much too long; in cancer, however, with paracervical involvement, there is special reason for it. In the drawings Fig. 1 shows the blades of the angiotribe extending from the outer side of the ovary and including the broad ligament to a point where the uterine artery crosses to begin its ascent along the side of the uterus. It is not always possible to grasp so much tissue in one bite of the blades; it was, however, in the case of cancer referred to with paracervical involvement. Fig. 2 shows how the broad ligament division can be bloodless. Long narrow-bladed broad ligament forceps may be applied to the uterine side of the angiotribe and the broad ligament cut along the uterine side of the angiotribe. This also may be bloodless and leaves a broader desiccated

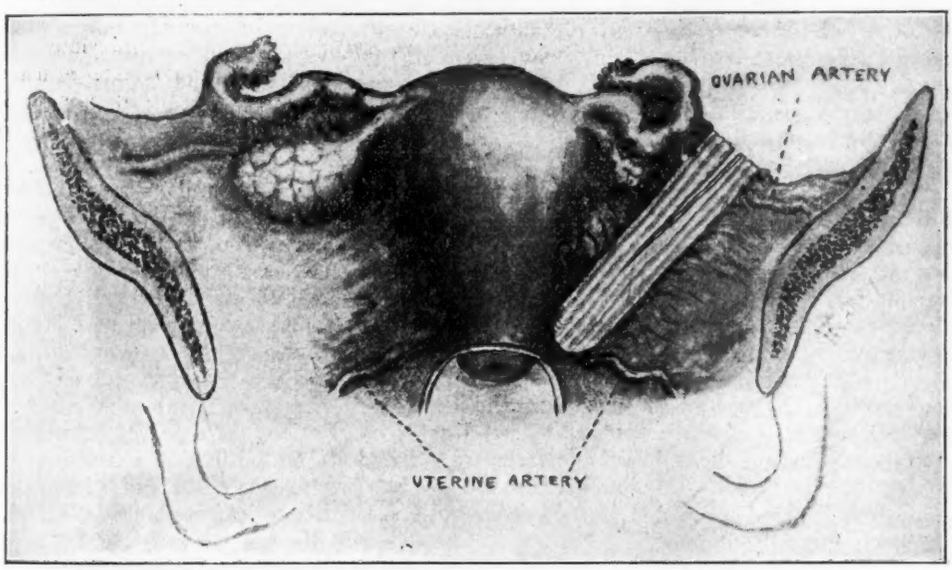

Fig. 2.—Uterus with blades removed, showing hemostased tracks of blades.

track. Looking at the drawings it is easy to imagine the uterus as here depicted to contain a large fibroid. How bloodless a supravaginal hysterectomy can be thus performed is apparent.

REMOVAL OF A FIBROID.

My third and last fibroid uterus, a very large mass measuring fourteen inches from cornua to cornua, thirteen inches from os uteri to fundus and having a largest antero-posterior diameter of eight inches, could not be thus treated and was removed as follows:

The large mass was delivered with difficulty from an eight-inch incision and pulled strongly over the symphysis. The peritoneal layer was cut transversely as low as possible near the posterior lip of the cervix. The fingers inserted within the peritoneal layer covering the firm fibroid easily dissected it away so that the fingers could turn the sides of the cervix. The vaginal cuff was cut away and temporary forceps applied to the base of the broad ligament at the sides of the cervix. Forceps were also applied to the broad ligament from above to control the massive veins and ovarian arteries and the mass delivered by cutting on the uterine side of the clamps. The completion of the operation consisted of the application of the blades of my heavy electro-thermic angiotribe to the broad ligament stumps temporarily controlled by forceps: first to the lower right stump, containing the uterine artery and branches, then the lower left, then the upper right, containing the ovarian, and finally the upper left stump. A running suture of catgut, beginning at the right lateral pelvic wall and ending at the left wall, covering in all the desiccated stumps and closing the vaginal cuff, completed the toilet and left a clean peritoneal covered pelvis. The patient had no shock or what could be called abdominal pain after the operation. The method adopted in this case excepting the electro-thermic hemostasis was practically that of Doyen. Of the twelve hysterectomies here reported nine were performed since my last paper without a death or complication.

EXPERIENCES WITH LARGE TUMORS.

Of the four ovarian cysts removed, one from a girl of fifteen years was as large as a full-term uterus. It had a broad pedicle in which hemostasis was obtained without seeing blood. A painless convalescence followed. A second case referred to in my last paper was a very large policystic ovarian tumor in a patient suffering from severe acute appendicitis. The broad pedicle of the tumor and a thick adhesion to the right side of the bladder were cut without seeing blood. In a patient having acute suppurative disease of the left tube and ovary, an ovarian cyst of the right side was found, of a diameter of four inches. The cyst and the left suppurative tube and ovary were removed bloodlessly by the electro-thermic forceps, the abdomen was closed without drainage, primary union and aseptic convalescence obtained. A fourth cyst the size of a small orange was removed together with the tube, one grasp of the angiotribe being sufficient.

For diseases of the adnexa (20 patients were operated on) 12 were single salpingo-oöphorectomies for chronic disease. In 2 others the opposite tube alone was also removed; 2 were double salpingo-oöphorectomies; 2 cases were tubo-ovarian abscesses with indurated adherent omentum; 2 cases were extra-uterine pregnancy. Not a ligature was used in these cases. In at least half of the cases the tube and ovary were removed after a single application of the blades of the angiotribe. In all cases where the tube and ovary could be freed of adhesions, and the tube and broad ligament beneath the ovary twisted into a pedicle, one grasp of the forceps was enough. Section through the white track of the blades was bloodless. A case of tubo-ovarian abscess of the left side, universally adherent, with thickened infiltrated broad ligament had indurated omentum in front of the uterus, pressing on the bladder and feeling per vaginam like a fibroid—all necrotic tissue is in-

cluded in these cases. The small bleeding points in the omentum were controlled by my electro-therm placed against the straight artery forceps. This was the third suppurative case in which the thermic angiotribe was used, the abdomen not drained and primary union obtained. The organs in the right pelvis were freed of dense adhesions and left in situ. The woman became pregnant within a year following the operation and expects to be confined in September of this year. No deaths in this series.

I have had one case of submucous intrauterine fibroid, the size of an English walnut, just appearing at the cervix. There had been constant bleeding for two years. After dilatation, the smallest electro-forceps were applied to the pedicle near the right wall of the uterus an inch from the cervix. Bloodless section through its track.

ADVANTAGES IN APPENDICECTOMY.

Forty-two electro-thermic appendicectomies included the following varieties: acute suppurative ruptured, 2; acute pus-distended non-ruptured, 2; acute, 9; chronic and subacute, 29. The meso-appendix was twisted around the appendix and both included in one grasp of the forceps in eight cases and section made through the track of the forceps. In all others the forceps were applied to the meso-appendix and the appendix separately. In three cases the appendix stump was dropped after section through the desiccated track. In all others a purse-string suture of No. 1 catgut was placed in the cecum around the base of the appendix and tied over the thus covered, white, occluded and desiccated sterile stump of the appendix. In three cases the purse-string suture was placed in the cecum around the base of the appendix before the application of the electro-forceps and tied immediately after section through its track. In all others the suture was placed after the use of the forceps and section through its track. In the two non-ruptured purulent cases the pus was retained within the removed appendix after section through the occluded track of the forceps. Thus there was no escape of septic matter and the abdomen, closed without drainage, healed primarily.

In the acute perforated cases one was perforated at the tip which was surrounded by indurated adherent omentum just below the gall-bladder. In this case the forceps were applied, the purse-string suture first in place, section made through its track, and the purse-string tied. There was no escape of the contents of the appendix, which was then carefully surrounded by gauze, as its separation continued, until its very tip perforated was found surrounded by omentum just near the gall-bladder. Only on reaching the tip and freeing it was pus encountered. This was anticipated and caught in the gauze. So absolutely free from source of fresh infection had the operation been conducted, partly owing to the use of electro-thermic occlusion, that the abdomen was closed without drainage. While pus subsequently escaped through the center of the incision most of the wound remained intact and convalescence was rapid.

The second ruptured case had an opening in the appendix half an inch from the cecum, leaving room to apply the forceps. Some of the chronic cases had been ruptured during acute attacks and were held adherent within organized sacs. All were closed without drainage.

HEMORRHOIDAL OPERATIONS.

In the five operations for hemorrhoids, in two the muco-cutaneous margin was not cut as a step in the operation and considerable pain occurred. In three the muco-cutaneous margin was severed and no post-operative pain followed. In all the cases the gauze placed in the anus was scarcely serum stained. The convalescence after these electro-thermic hemorrhoidal operations was cleaner and much more comfortable than follows the ligature or clamp and cautery operations. The operative technic consists of the application of narrow-bladed electro-thermic forceps (Fig. 6) to the piles, the blades running with the axis of the bowel and carefully protected by gauze. After compression and hemostasis, section is made along the exposed side of the blades. The result, after the removal of the forceps, is a white ribbon at right angles to and parallel with the axis of the bowel. Repeated according to the number of pile areas. One rectal polyp with broad pedicle was removed by electro-forceps and section through its track.

FATALITIES.

In my former paper three deaths were reported, all hysterectomies, and postmortem results were given, proving no connection with electro-thermic hemostasis. In my last year's work there have been two deaths in patients on whom electro-thermic instruments were used. Both were multiple operations and only in the removal of the appendix were electric instruments used. One was an acute case of tubo-ovarian post-puerperal infection with free pus in the pelvis. I refrained from using forceps in the pelvis and removed the right pelvic contents with ligatures. The diseased appendix was then exposed and removed by the electro-thermic method as usual. Patient died on the tenth day of sepsis and ileus. No postmortem was allowed. Death was evidently due to pelvic infection. The second case was similar, a post-puerperal subacute case with high temperature. Free pus was in the pelvis and tubes, ovaries and uterus were matted together. It was a case for complete removal and I tried to use electric forceps to remove the uterus, but quickly desisted and finally bisected the uterus as a means of emptying the pelvis, removing tubes, ovaries and uterus, using catgut ligatures. Patient died on the tenth day. No postmortem. I had attempted to postpone this operation and did so for two weeks. The use of electro-forceps to remove a thick and infected appendix was in no way connected with the result.

All other electro-thermic operations recovered. The abdominal incision in all non-purulent cases was closed in tiers by catgut and with but few exceptions primary union obtained, proving no interference with aseptic surgery. In all incisions directly over the appendix, except in two ruptured cases including the two pus distended cases aseptic closure of the abdominal incision was obtained. In four cases of purulent disease of the adnexa (electro-thermic operations) no drainage was used and aseptic incisions obtained.

ADVANTAGES OF THIS METHOD.

My experience warrants the conclusion that there is less pain after abdominal operations with electro-thermic hemostasis than with the use of ligatures. The three postmortem examinations made indicate that adhesions are much less liable to occur than after ligature operations. The further fact that in a field capable of isolation the work within the abdomen can be quite bloodless are the ordinary reasons in favor of this method of hemostasis: the special reasons will be considered under hysterectomy for cancer, salpingectomy, ovariotomy and appendectomy.

In cancer of the uterus the work of Byrne proves that the cautery knife has a remarkably retarding and ever-

curative effect in his partial operation, amputation of the cervix. It is easy to understand that, when the disease is so limited that the cautery knife can skirt it, the result will be all we desire. But we can not say when malignancy is so restricted, hence, after the diagnosis, hysterectomy is always indicated. With electro-thermic forceps and angiotribes we can go much beyond the confines of the uterus—even deeply into the paracervical region. The effect of the heat travels beyond the compressed track of the blades. We obtain not only hemostasis, but a sealing of the lymphatics. Cells in the surface acted on are killed. The desiccated and seared surfaces are non-absorptive. Transplantation through them is impossible. With the ligature we do not go as widely into the surrounding tissue; we leave stumps without the ligature in which cells may pursue their normal life. In my third case of cancer in which a vagino-abdominal pan-hysterectomy was performed, the involved paracervical tissue was deeply cauterized from the abdominal side and the peritoneum then closed above it.

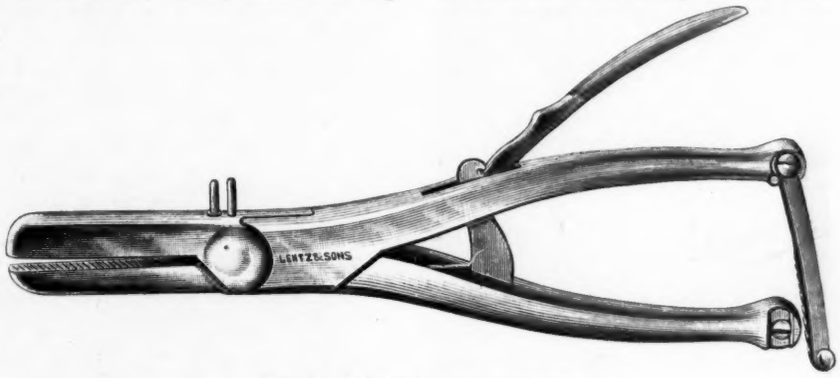

Fig. 3.—Electrothermic angiotribe.

In salpingectomy there is a special field for electro-thermic occlusion. The researches of Emil Reis and others prove the need of better methods in salpingo-oöphorectomy. Conservative ovarian and pelvic surgery depends on the occlusion of the tubal stump. A section of the Fallopian tube through the track of the electro-thermic occlusion shows a homogeneous structure free from all histologic tissue. A sterile non-patulous stump is the result.

In ovariotomy the usual bulk of the pedicle and the firmness and elasticity of the tissue forming it make it difficult for a ligature to be placed so certainly as to exclude the danger of hemorrhage. The compression and desiccation of the pedicle by the blades of a heavy electro-thermic angiotribe is certain and has the added advantage of being a bloodless procedure.

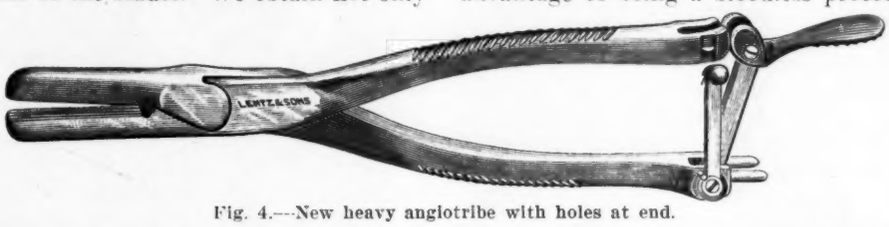

Fig. 4.—New heavy angiotribe with holes at end.

IDEAL USE IN APPENDICECTOMY.

Aside from the mortality rate, though there is reason to believe it would be lessened by this method, there is strong evidence to prove the superiority of electro-thermic occlusion and hemostasis over other procedures in appendicectomy. It is cleaner and bloodless, for within the abdominal incision no blood need be seen in an unruptured case, except from the adhesions; it is more sterile, for we make section across the appendix through an aseptic, desiccated, occluded track in which no evidence of the histologic structure of the appendix is left, therefore without any possibility of even infecting the scissors. With proper technic, there can be no escape from the cecal or distal end at the line of section. It will be thus possible to obtain an aseptic abdominal closure in all cases of unruptured appendicitis even if the contents of the appendix is pus, thus materially shortening

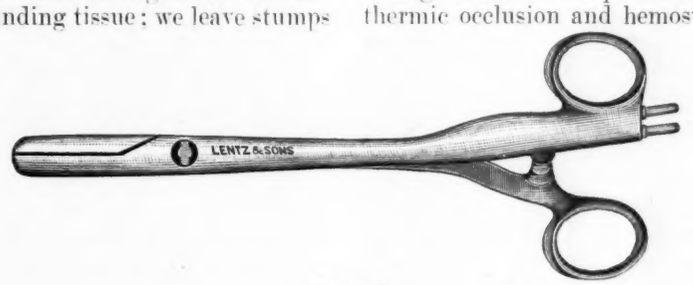

Figure 5.

Fig. 6.—Hemorrhoidal (new) forceps.

the post-operative convalescence. In all my chronic and in all unruptured acute cases, including the two pus-distended ones in which an incision was made over the appendix, a primary closure of the abdomen was obtained. The additional purse-string suture of fine catgut in the cecum, thus covering the stump of the appendix, does not lessen the claims of electro-thermic occlusion. For the suture does not occlude the stump, it simply acts as

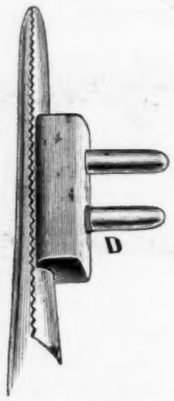

Fig. 7.—Electrotherm applied to artery forceps.

a buffer should it have a tendency to open. Its presence counteracts defective technic.

INSTRUMENTS AND ELECTRICAL APPARATUS.

During the past year I have found my electro-thermic angiotribe (Fig. 3) with the poles emerging from the proximal end of the blades fully equal to any work within the abdominal incision, but was not always able

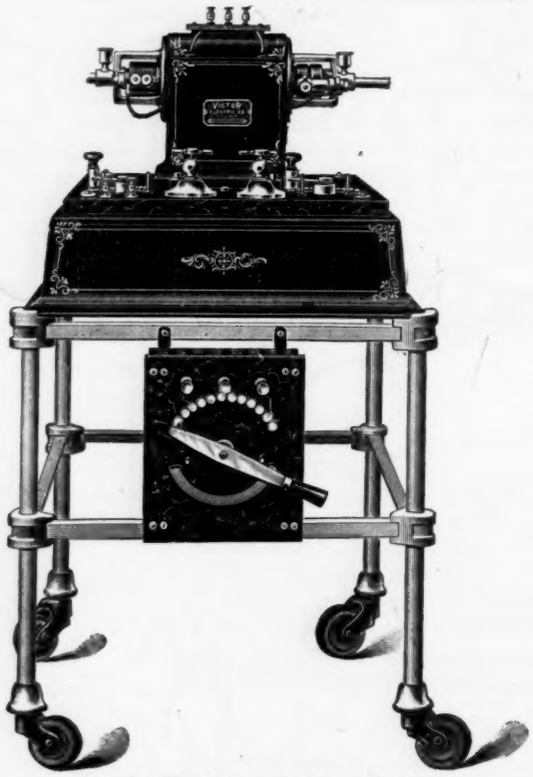

Fig. 8.—Victor transformer and motor.

to use it as comfortably as desired in vaginal hysterectomies, especially if the blades had to be inserted deeply within the vaginal outlet. I therefore devised a new angiotribe (Fig. 4) with the conducting wire running deeply through the entire shaft, the poles attached at the end. A terminal catch and lever is a feature giving more easy manipulation and greater leverage. The same instrument is made with the poles at the proximal end of the blade. Two sizes are made, the blades measuring 2¼ and 1¾ inches long. A hand forceps with blade 1¼ inches long, shown in Fig. 5, is useful in occluding the appendix and hemostasing the meso-appendix, the ovarian, uterine or any large isolated artery.

The blades of these three practical instruments heat at a given amperage within 20, 15 or 10 seconds. The proper heat is that which causes water to boil throughout the length of the blade. The longest application of this heat for the respective sizes need not exceed the above given time and the entire application of the blades to the tissues including the time required to raise the blade to the proper heat, the time for the continuance of the

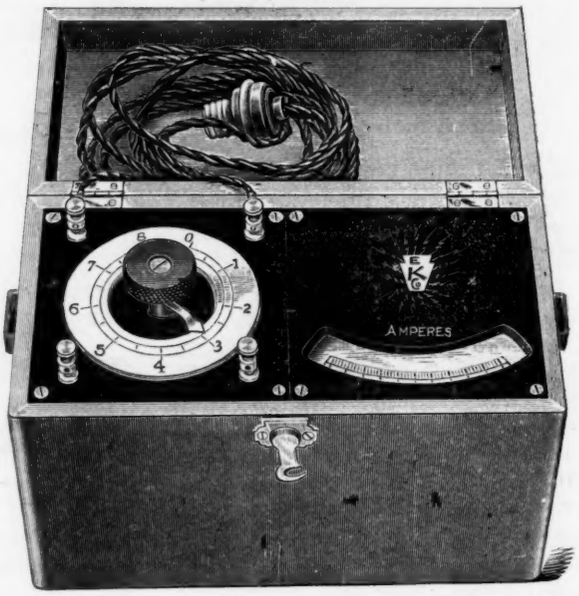

Fig. 9.—Keystone transformer with meter attached.

heat and the little time elapsing after the withdrawal of the current need never exceed one minute, forty seconds and twenty-five seconds respectively. Experience will enable one to shorten this time. I have occluded the appendix in a twenty seconds' application of the small forceps. I have often hemostased the meso-appendix in ten seconds and have removed the tube and ovary after twenty seconds' application of the smaller angiotribe with a maximum current. The blades of the instrument are wide enough to make section through the side of their track. Fig. 6 shows a new electro-thermic hemorrhoidal

Fig. 10.—Cautery knife.

forceps with narrow blades and with poles emerging near the blade, yet far enough away to make the attached cable tip remain some distance from the operating field. The long, thin narrow blades allow plenty of room for protection by gauze, to shield the mucous surface of the bowel and the muco-cutaneous margin.

Figure 7 is a view of my artery forceps electro-therm, showing their application to the blades of straight forceps. It obviates the necessity of a number of easily damaged small electro-thermic artery forceps. I use it preferably in connection with a straight Pean forceps, although it can be made applicable to the tips of any straight forceps. The electro-therm can be heated in three seconds. It can be applied rapidly from one for-

ceps to another in a wound and need not be held against a blade over twelve seconds.

I strongly advocate the use of a meter in connection with the source of electricity for heating these instruments. During the last year, however, I have dispensed with the meter in connection with a motor transformer I have been using in my operating-room and which was made especially for these instruments. I use it always at its maximum, knowing the current that it gives and knowing practically the time required for it to heat each instrument. An alternating meter is made that can be used in connection with it.

Figure 8 is a view of the apparatus mounted on an easily moving table. It is made by the Victor Electric Company of Chicago. It has separate attachments for low voltage diagnostic lamps. My cautery knife shown in Fig. 10 requires the same amperage as the platinum in the electro-thermic instruments and heats at the maximum given by this moter transformer.

The keystone transformer (Fig. 9) is excellent. Its capacity is 100 amperes. It is nicely cased, is light and portable and has an ampere meter in connection. For use with the continuous current a motor dynamo the same or similar to that shown in Fig. 8 is required. This transformer was lately originally designed for heating these electro-thermic instruments. It will heat any heavy cautery knife, the Bottini incisor, etc., requiring from 30 to 100 amperes. If desired, a special extra rheostat can be combined for cautery work requiring less amperage. The above transformer was furnished to Johns Hopkins Hospital by Chas. Lentz & Sons of Philadelphia, for use in heating my electro-thermic instruments. In hospitals and houses without the electric current a storage battery is required. Its capacity should be 150 ampere hours. For numerous operations the frequent discharge of the heavy current required by these instruments will soon injure a battery of less capacity. In connection with the storage battery a meter is indispensable.

The various steps in the development of these electro-thermic instruments followed actual surgical use. The last three months use has proved that they are practically perfect. I have requested the makers, Chas. Lentz & Sons, to stamp each instrument with the amperage and the number of seconds required to raise each blade to the required temperature.

DISCUSSION.

DR. O. S. PHELPS, Battle Creek, Mich.—I would like to ask Dr. Downes what he does to keep the tissues on either side of the angiotribe from being injured. I have been using the electro-hemostatic forceps, as first devised by Skene, with some modifications of my own, but have confined my work entirely to hemorrhoids. I have used it in twenty-five cases in the last two years, and think it far superior to any other method. I have not used it in abdominal work, because the Skene forceps make it very difficult to protect the surrounding tissue. Therefore, I would like some information on that in particular.

DR. DOWNES (closing the discussion)—I always protect the surrounding tissue with gauze. I called attention in my paper to the fact that the field should be isolated and in such a manner that one can easily see where the blades are pressing. I have had no trouble whatever. Of course, it was a little hard in the beginning, but one gradually becomes accustomed to it, and I have no fear of injuring any of the surrounding tissues.

Milk Bottles Sacred.—A bill has been introduced into the New York legislature, making it a misdemeanor to employ for any other purpose bottles used for dispensing milk.—*Medicus.*

Hysteria in Animals.—The study of hysteria, which, if only for the sake of accurate differential diagnosis in many diseases, is one of the most practical parts of medical education, bids fair to have some light thrown on it by the development of comparative medicine. In a short article in *La Nature* Coupin cites from the experience of European veterinarians a number of cases which are convincing of the existence of typical cases of hysteria produced by physical or emotional shock in domestic animals and birds. Coupin quotes the report of Aruch of Milan on the case of a canine patient that once had been made ill by the departure of her master and on a later occasion stricken by seeing her mistress with a new-born babe. The dog developed dysphagia, cough, polyuria, alteration of voice and temper, progressive paralysis, then aphoria, and finally was killed. An autopsy failed to disclose recognizable lesions of the nervous system. Another striking case is cited from the practice of Dr. Hyger. A cat bitten by a dog acted as if paralyzed, dragging her hind legs when she attempted to walk. The posterior third of the trunk, the hind legs and the tail were analgesic. Power to move the tail was lost. About two months after the accident a servant "of a curious turn of mind" threw the animal out of a window to see if a paralyzed cat with the usual feline dexterity could alight on its feet. The cat fell safely enough on all fours and then walked off quite cured of its paralysis. Another instance of a nervous affection, this time in a canary, being brought on by fear and shock is also taken from a report by Hyger. A cat leaped on the canary's cage, throwing the cage to the ground, but in nowise injuring the bird. After the accident the canary lay motionless on the floor of its cage and was finally revived by sprinkling cold water on it. Soon it was jumping about as usual, but although previously a fine singer, now the canary was quite dumb. At the end of six weeks the singing voice was recovered as suddenly as it had been lost. Coupin asserts that very many cases of hysteria are seen by experienced veterinary surgeons, cases especially of traumatic or emotional origin. Fear of reprimand, fear of objects such as locomotives and automobiles, and the shock from lightning striking the stable are among the immediate causes. These reports concerning nervous diseases in animals will serve as fine criticism on any tendency to regard cases of hysteria as necessarily involving a certain amount of malingering or wilfulness. Occurring in animals, the condition certainly must be involuntary since with them there can be no question of ulterior design to make one suspect feigning. The observation of hysterical conditions in animals ought to prove a new point of departure for study by psychologists of the peculiar inhibition of the normal will power which is recognized as characteristic of hysteria. Then, too, the pathologist may, through the possibility of procuring for intimate study a nervous system affected by hysteria, be able to discover histo-pathologic changes which many neurologists suspect as underlying the morbid functional conditions of that affection.

True for Both Dentist and Physician.—You must aim to have an unsullied character. The dentist has the most intimate relation with his patients; and he owes it to himself and others that his thoughts and example should be elevating. You can not separate your private from your professional character. The habitual Sabbath breaker, the irreverent scoffer, the foul blasphemer, or the sensualist who dishonors God, and does violence to the most sacred feelings of the human heart, does not deserve a place in any honorable profession. . . . The demand of the age is for the best; and he who hopes for success must come to his calling thoroughly prepared. Without this the lawyer is a pettifogger, the craftsman a tinker, the doctor a quack, and, need I add, that the man who writes "dentist" after his name without a thorough knowledge of his calling combines them all—a pettifogger, tinker and quack. Gentlemen, you owe it to yourselves to take the highest ground for the honor of your profession.—From address of W. W. Alport to the graduates of the Ohio College of Dental Surgery, published in *The Bur.*

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SATURDAY, JULY 12, 1902.

THE AGRICULTURAL DEPARTMENT'S REPORT ON SURRA.

In October, 1901, there appeared in the Philippines a destructive disease among horses which was found to be the parasitic disease known as surra and extensively studied in India by Evans, Lingard and others. The presence of the disease in the Philippines led the Secretary of Agriculture to interdict the landing of any animals from the islands at any of the ports of the United States or of the dependencies thereof. The disease is not now present in the United States so far as known, but in order that the army officers, veterinarians, and live-stock raisers may be able to recognize the disease should it enter the country and in order that the officers and sanitarians in the Philippines should have at hand the present knowledge concerning the disease, Salmon and Stiles of the Bureau of Animal Industry have prepared what seems to be an exhaustive report on surra with a bibliographic list by Hassall.[1]

This disease, which also affects mules, camels, buffaloes, dogs and other animals, is caused by a micro-parasite of the blood, *Trypanosoma evansi*, and it seems to be generally accepted that the organisms are transmitted from animal to animal by horse-flies (*Tabanus*) although other modes of conveyance are not excluded. "The chief symptoms of surra are fever, of an intermittent, remittent and sometimes relapsing type; urticarial eruption; petechiæ on the mucous membranes; progressive anemia and emaciation; ravenous appetite and extreme thirst; more or less paralysis." There are also swelling and edema of the extremities and, in the case of male horses, of the sheath. There is no satisfactory treatment except that arsenic has given good results in some cases and the intravenous injection of Fowler's solution is recommended in the Philippines. So far as known the only prevention consists in protecting animals from flies; sick animals must be isolated or destroyed. The spontaneous termination of the disease is death. Sufficient has been said to indicate that surra is a very serious matter from the military and economic standpoints, and that the enterprise of the workers in the Bureau of Animal Industry in so rapidly furnishing reliable means of educating those concerned is worthy of commendation.

Parasites closely allied to the species causing surra occur in Europe, Africa and South America, and cause diseases of horses and other animals known as tsetse-fly disease, dourine, mal de caderas, and also the trypanosoma disease of rats. Some authors believe that some of these diseases are identical with surra. Other species of trypanosoma occur in birds, fish and frogs. It is seen that trypanosoma is widely distributed and that many species are markedly pathogenic while others, as for instance *Trypanosoma lewisi* of rats, are not especially virulent. Because of the multitude of vernacular names for the various diseases referred to, Salmon and Stiles introduce the term trypanosomiasis, "referring to any infection of any animal with parasites belonging to the flagellate family *Trypanosomidæ*" of the protozoa. These parasites have received considerable attention of late. Alfred Lingard, imperial bacteriologist in India, has been active for many years in researches on surra which have given valuable results. Rabinovitch and Kempner have studied rat trypanosomiasis, to which we have referred[2]; Laveran and Mesnil took up the same subject[3] and followed with an exhaustive study of the tsetse-fly disease[4]; Voges[5] recently published a study of the mal de caderas of South America. These contributions are mentioned in order to show the interest paid trypanosomiasis in various parts of the world. The expedition of the Liverpool School of Tropical Medicine to Gambia in 1901 resulted in the discovery of trypanosoma in the blood of human patients, and further studies are to be carried on in regard to the distribution and conveyance of the disease. There seems to be some question whether the case of Nepveau in 1898 was one of trypanosomiasis.

On account of the size of the parasites which though microscopic are easily recognizable by the undulating membrane, and because of the wide range of susceptible animals, it would seem possible by crucial experiments to determine the exact modes of infection in many cases. Work of this kind has been done with success. Certain facts in connection with rat trypanosomiasis also suggest that efforts to produce immunizing and curative serums are warranted. In view of the economic importance of surra in horses some form of successful treatment is certainly needed, and at the same time experimental study of immunity in trypanosomiasis would be of great scientific interest.

1. Emergency Report on Surra, Washington, 1902.

2. THE JOURNAL A. M. A., April 28, 1900.
3. Ann. de l'Institut Pasteur, 1901, xv, 673-714.
4. Ibid., 1902, xvi, 1-55.
5. Zeitschr. f. Hyg. u. Infektionskr., 1902, xxxix, 323-371.

AIDING THE SECTIONS.

It is probable that no other action taken at the Saratoga meeting will do more to develop and foster the scientific interests of the Association than the appointment of the especially strong Committee on Sections and Section Work. It is well known that while some of the Sections have grown stronger from year to year, and are fully meeting their responsibilities and obligations, others, with equal opportunities, have lagged behind or gone backwards. The reasons for all this should be easily determined by proper investigation, and the best

methods of the best Sections adopted for the guidance of all. This committee should be of great assistance in bringing about such results.

It is expected, too, that the committee will be a continuous one, and that before the final adjournment of the Association meetings in the future it will be able to hold a meeting with the new Section officers and assist them in planning the work for the next year. Selected because of long experience and prominence in such work, and being in close touch with both the Sections and House of Delegates, the assistance of such men to these offices, and in the entire scientific work of the Association, should be of great value.

The idea appeared to be that each Section should be accorded the fullest possible autonomy, with only a sort of umbilical-cord attachment to the Association, for the purpose of nourishment and assistance in everything, and hindrance in nothing. In this way it is hoped that the Sections will have such a growth in a few years that the Section on Surgery, taken as an example, will become the real American Surgical Association, with such an attendance and influence that no surgeon in this country will willingly absent himself from its meetings. And what is true of this particular Section may become so of all those that now exist, or may be hereafter created. Of course, such results can only be brought about by the patient and intelligent labor of the Section officers, aided and coördinated, it is hoped, by such a committee.

It is also probable that the adoption of this broad and liberal policy may induce such organizations as the Association of Railway Surgeons, Military Surgeons, the National Conference of State Boards of Health, and other similar bodies, to at least consider the advisability of connecting themselves with the Association as Sections, upon such terms and in such a way as will give them all possible support from the central organization, and at the same time preserve the independence in which they have much natural pride. As all are working upon converging lines, with common ends in view, and with no conflicting interests, a final union of all of these bodies in some form seems unavoidable, but evidently there should be no undue haste in attempting to bring it about. The purpose of the Association should be to so develop its usefulness and influence as to make such connection desirable and easy to obtain, and leave the balance to time and the wisdom of its friends in these independent societies.

In considering the subject the question of fellowships or other distinctions within the Sections naturally arises. After attendance for a term of years and the performance of a certain amount of work, a member might be made eligible for election to a fellowship by his Section. When the number of fellows become sufficiently large one day might be set apart for papers and discussions by the fellows alone, the privilege of attendance being free to all. A similar method of encouraging regular attendance and faithful scientific work has produced excellent results in the Alabama Medical Association and many lay bodies, and is certainly worthy of fair consideration.

THE EARLY RECOGNITION OF SMALLPOX.

It would be too bad if out of all the expense, dread, suffering and mortality of the present smallpox epidemic no definite benefit were to accrue to medicine. The price would almost seem not too dear to have been paid if out of the opportunities afforded for the investigation of the disease some hopeful method of diagnosing smallpox early in its course should be evolved. Immediate recognition and especially some means of absolutely differentiating from chicken-pox light cases of smallpox that may occur in a community would be invaluable to prevent the spread of the disease. It is the neglected or unsuspected original cases in any given locality that prove sources of infection. Detection of the nature of the disease before many persons have been exposed to contagion from it would soon cause epidemics to be very limited in their spread, and might, even with the present generalization of vaccination, prevent them altogether.

The problem of finding some absolutely pathognomonic sign has been approached from two apparently very hopeful standpoints, that of hematology and of animal inoculation. Professor Courmont of Lyons, in his article on the diagnosis of eruptive fevers by the examination of the leucocytes, published very recently in the Von Leyden Festschrift,[1] insists that the leucocyte formula for smallpox is so pathognomonic that a diagnosis of the disease can be made at a distance after an examination of a drop of the patient's blood. The distinctive blood picture of the disease is, according to him, characterized by a hyperleucocytosis mainly consisting of some mononuclear leucocytes with some myelocytes and nucleated red blood corpuscles. In children in whom a mononuclear leucocytosis is a normal condition the presence of myelocytes decides the problem of diagnosis. These blood appearances are found even in the mildest cases. The pustules of the secondary stage of smallpox contain pus, the cellular elements of which consist almost exclusively of mononuclear leucocytes and myelocytes. This seems to indicate that the pustulation instead of being due, as has been so long taught, to secondary invasion of the cutaneous tissues by pus microorganisms, is in reality a true smallpox process.

Other observers have failed to find this distinctive leucocyte formula in smallpox. At the meeting of the New York Academy of Medicine, held April 17, representatives of the New York City Board of Health[2] said that it was impossible to distinguish smallpox from chicken-pox by this means. If this were so the value of the sign would be almost nil since it is precisely varicella that needs to be differentiated at the beginning of an epidemic in order to avoid the spread of contagion.

1. Von Leyden Festschrift, vol. i., p. 105. Hirschwald, Berlin, 1902.
2. Medical News, May 17, 1902.

French observers[3] have found, however, that there are two types of varicella. One type embraces about one-third of all the cases and has a leucocyte formula resembling that of smallpox. The remaining cases have no constant leucocyte formula. Courmont suggests the possibility of errors in diagnosis between mild smallpox and varicella as accounting for the discrepancy in the observations. Certainly the subject seems very promising and worthy of further study.

Animal inoculations with the hope of finding some pathognomonic sign of smallpox have been carried on for some months by the New York City Board of Health. Monkeys have been proven susceptible to smallpox, but so far it has been absolutely impossible to produce chicken-pox in this animal by means of inoculation. The work on this subject has been very carefully done, and the conclusions, as yet not formally announced, though hinted at before the New York Academy of Medicine some months ago, have been confirmed by subsequent investigations. The practical application of these observations would consist in the establishment of a station to which suspected material can be sent when the first cases of an epidemic occur, and in ten or twelve days the monkey reaction will decide absolutely whether the doubtful cases are true smallpox or not. This may seem a slow and bothersome method, but vaccination has been so general during the last few years that it is probable smallpox will be so modified in the near future as to demand even this time-taking method. Certainly the results obtained encourage the idea of surer recognition of early anomalous cases. It must be remembered that in some instances in the present epidemic cases have been occurring for several weeks, or even longer, in certain localities before a suspicion of their true nature was aroused by the occurrence of some especially severe cases. Successful animal inoculation suggests also the hope that a method of serum therapy for the disease may eventually be found. Promising work on this subject has been done for several years past at the Pasteur Institute in Paris, and the mortality from the disease under present therapeutic methods justifies the devotion of further time and money to this line of investigation.

THE CHAIRMAN'S ADDRESS IN STOMATOLOGY.

In the issue of July 5 we published a letter regarding the Address of the Chairman before the Section on Stomatology at the Saratoga meeting, and made confirmatory comments on the documents before us that were submitted by Dr. Rogers. An injustice was done Dr. Peck, in that he was not informed that the letter would be published and given an opportunity to make his explanation in that same issue. We have requested a statement from Dr. Peck.

REORGANIZATION OF STATE SOCIETIES: A CORRECTION.

In an editorial note last week, "Michigan Falls Into Line," we gave Wisconsin among those state societies which had adopted the Constitution and By-laws recommended by the American Medical Association. This was a mistake, Michigan being the state referred to. Last week two more societies, Colorado and Minnesota, came into line, and adopted the recommended constitution. The list now comprises Arkansas, Colorado, Kentucky, Michigan, Minnesota, Missouri, Ohio and Tennessee; and California and Illinois should be added, as their new constitutions contain the fundamental principles. We hope all these state societies will recognize the fact that the adoption of these constitutions is only the good beginning; what has been done is simply adopting the architect's plan. The work of putting up the structure from the foundation to the roof is yet to be done. The new constitution must become practically effective by the active co-operation of their members before the required organization of the profession can be perfected.

3. Nobécourt and Merkelen, Les leucocytes dans la varicelle, Journal de Physiologie et de Pathologie General, Mai, 1901.

A "BUSY DOCTOR."

One of the peculiar things in our profession is the fact that we have two classes of busy doctors. One is represented by a class of men who have made a name for themselves, men who stand on the top rung of the ladder and have reached it by doing hard work, good work in a scientific way, and yet attend to a very large practice. This class of men, as a rule, take our best journals and read them. They have sent to them regularly all the new medical books that come out, and evidently they read them. Such men not only carry on a large practice and do a large amount of reading, but they also write excellent articles for publication and read papers before medical societies. This is one class of "busy doctors." There is, however, another class of "busy doctors." These men have made for them special books that are written for the "busy doctor." These books do not go too deep into the scientific side of the subject, but give only the practical. There are also certain journals that are gotten up for this class of "busy doctors." They are what are called the "practical" medical journals. These thoughts come to our mind on reading a letter just received from one "busy doctor." It reads as follows: "It [THE JOURNAL] comes to me each week, but I have never read a page of it yet, and hardly expect to. I would love to read it, but have no time. I have to use every hour during the day to fill my professional calls, and at night I must sleep, so can not possibly have time to read. You may discontinue THE JOURNAL, as it is of no use to me." If any comment were necessary we might ask, is this man faithful to the sacred trust imposed in him by his patients? Is any physician justified in being "too busy" to keep in touch with the methods and experience of other practitioners in his line of practice? Will it pay him to thus disregard the interests of his patients—to say nothing of the future of his practice?

THE GENERAL EDUCATIONAL REQUIREMENT FOR THE MEDICAL COURSE.

The imperfections of the candidates for medical honors are not confined to this country, though we have reason enough to appreciate their existence. Other people, too, have troubles of their own, as witness certain

editorials in our British contemporaries. The *British Medical Journal* of June 7 devotes its leader to the "Defective Standard of Preliminary General Education in the British Isles," showing that, in some parts at least, the required educational standard of the medical profession is likely to fall below that reached by the tradesman class, and that a medical man in Wales may soon "be demonstrably worse educated than his grocer." There does not necessarily appear to us so great an impropriety in this; there is no reason why, in this country, a grocer can not be a well-educated man—we have all seen many such—but these things evidently have a different significance over there. Putting it in a somewhat better way, there is clearly an impropriety in having the general educational standards of a learned profession no higher than those commonly possessed by a mere seller of goods, however respectable that occupation may be. The professional education counts for much, but unless backed by general culture, the profession will suffer in public esteem to a corresponding degree. The proposed requirement in England is not apparently higher than our own and well below that of a few institutions here, the standard for a boy of 17 being the one uniformly recommended in England, Scotland and Ireland, in the answers to the chairman of the educational committee of the General Medical Council. Indeed, the age, not the educational requirement, is only specified in at least one part of the United Kingdom. Our high-school education requirement as adopted in New York, Ohio and some other states is better than this, and the educational experts of the Council underran even it by making the recommended age 16. The tendency in this country is strongly toward raising the standard of preliminary education and, while we have our special difficulties to meet, unless our transatlantic confrères bestir themselves, the chances are that before long we may be well ahead of them in this special regard.

THE CONTROL OF INFECTION.

In *Pediatrics* for June, Dr. John Ruhrah calls attention to a paper of Professor Grancher[1] of Paris on the control of infectious diseases, which he thinks has not received the attention it deserves. The problem of protection from contagion is one that interests every one, lay or medical, and anything that will reduce the danger without extreme measures ought to be welcome. The inconvenience and often the impossibility of thorough isolation in private practice and, to some degree occasionally in hospitals, asylums, etc., is readily appreciated by any one with experience. Grancher has apparently solved the problem to a certain extent, that is, he has succeeded in treating a number of infectious diseases in the same wards with other patients in the Hopital des Enfants Malades in Paris, and yet avoiding their extension. Arguing that surgical and obstetric infection had been reduced to a minimum by a correct technic, he sought to find a similarly effective medical technic. His success and methods are detailed by Ruhrah; isolation (not meaning by this room-isolation) and antiseptsis are the keynotes; he absolutely suppresses dust by paraffining the floors and painting the walls and washing twice daily with sublimate solution. Isolation is secured by metal screen one and a quarter meters high around the beds of the infected cases, one end being left unscreened for the entrance of the physician and nurses, who throw over themselves a wrap at the time, which is at other times hung within the screen. All dishes, trays, bedding, etc., are sterilized by steam or boiling, and the beds themselves are of iron and are disinfected by scrubbing with an acid sublimate solution. The same nurses attend all the patients in the wards, but with only these precautions Grancher has been able to entirely suppress infection from diphtheria and bronchopneumonia and practically control also that of scarlatina, pertussis and mumps. With measles and varicella the results were less striking, though the spread of these diseases has been remarkably lessened. The results with whooping cough are the more striking, since it has been considered largely an air-borne infection. Children do not expectorate in disease and some of the success can be attributed to this fact. This is also important, as their disorders are just the ones that often embarrass the general practitioner in his treatment of these cases. With adults the results might be less striking, but the report is nevertheless suggestive as regards the management of infectious cases generally. Grancher's paper was read nearly two years ago, and it is a little remarkable, considering the showing he makes, that more notice has not been given it.

1. Thirteenth Internat. Med. Congress, August, 1900.

A SUGGESTION FOR THE TREATMENT OF SOME RESPIRATORY NEUROSES.

We have learned to look on disease as an expression of the reaction of the human organism to an invading irritant. To certain disorders apparently of nervous origin, but without demonstrable lesion, we have come to apply the designation neuroses. Of them we know in general that they are largely transmissible by heredity and that their manifestations may sometimes be excited or suppressed respectively by slight influences. Some of these disorders are motor, others sensory, while still others are distinctly vasomotor, at times spasmodic, at other times paretic. In the last class are a group of related disorders, of which asthma may be considered a type—the so-called paroxysmal respiratory neuroses. It must be assumed that we have here an erethetic nervous system, more especially its respiratory division, which is set into morbid activity by various irritants to which the normal organism makes no special response. Owing to the diversity of causative factors and the difficulty of influencing the constitutional state, the results of treatment are by no means always successful, and the disorders in question are especially characterized by their tendency to periodicity or seasonal recurrence. A plan of treatment has been suggested by Dr. H. Holbrook Curtis[1] which on account of its simplicity alone is at least worthy of extended and impartial trial. This consists in the administration to patients who develop asthmatic symptoms on exposure to vegetable emanations, such as the pollen of various plants and the like, of a tincture or fluid extract of the especial exciting agent, in the hope thereby of conferring immunity. Observations were made especially with a tincture and a fluid extract of the pollen and the flowers of ragweed—*Ambrosia artemisiefolia*. This method has been pursued in a considerable

1. Medical News, July 7, 1900.

number of cases and the results must be considered at least encouraging. Following along the same line Drs. E. Fletcher Ingals[2] and John Edwin Rhodes in a recent issue of this journal showed how they employed in 20 cases of hay-asthma a combination of equal parts of fluid extracts of ragweed and goldenrod, using in connection local applications. Twelve, or 67 per cent., of the patients thus treated reported that they were relieved by the internal remedy, and 13, or 72 per cent., believed that they were benefited by the spray. The absence of favorable results in some of the cases may be due, it is thought, to the fact that the pollen of other plants than those employed may have acted as the exciting factors of the disease. Although there may be some question as to whether the promise held out by the results cited will be realized, the plan of treatment proposed should at least receive a fair trial and be judged on its merits. In explanation of the manner in which such results are brought about it may be conceived that by the circulation in the blood of certain principles, the susceptibility of the respiratory mucous membrane to their irritating influence is diminished, and the usual reaction, as manifested in the symptoms of hay-asthma, does not take place.

Medical News.

ALABAMA.

St. Margaret's Cornerstone Laid.—Bishop Allen of Mobile laid the cornerstone of St. Margaret's Hospital, Montgomery, with appropriate ceremonies.

Birmingham Medical College.—The contract for the erection of the new medical college building has been let. The building is to be completed by September 27.

Hillman Hospital, Birmingham.—A permit has been issued for the new Hillman Hospital, and the contract awarded for its erection. The building will be four stories high and will cost $50,000.

Osteopaths Held to be Physicians.—By a decision of the Supreme Court rendered June 28 in the case of Eugene Bragg vs. the State of Alabama, the decision of the lower court was affirmed. The decision affects several hundred men throughout the state, and will have the virtual effect of driving them from the state. Osteopaths are thus held to be practitioners of medicine, and must stand the examination as required by the laws of the state of Alabama for all persons entering the practice of medicine. This is another victory for the medical laws of Alabama and for the physicians who have labored for a higher medical education and reasonable qualifications to enter on the practice of medicine.

ARKANSAS.

Dr. Hooper Resigns.—Dr. Philo R. Hooper, for many years superintendent of the Arkansas State Lunatic Asylum, Little Rock, has filed his resignation. The cause assigned is long service and a desire to be relieved of the weight of responsibility.

Resolutions Regarding the Late Dr. Jelks.—At a special meeting of the Hot Springs Medical Society, the following resolutions were passed:

WHEREAS, An all wise Providence has seen fit to take from our midst, on the 24th day of June, 1902, Dr. James Thomas Jelks, one of the oldest, most faithful and most esteemed members of the Hot Springs Medical Society,

Be It Resolved, That we deeply deplore and regret his seeming untimely death:

Be It Resolved, That the community has lost a most valued citizen, the poor and needy a sincere friend, the medical profession a leading member;

Be It Further Resolved, That a page in our records be dedicated to his memory, and that we extend our most profound sympathy to his bereaved family in their irreparable loss.

2. THE JOURNAL A. M. A., June 28, 1902, p. 1684.

ILLINOIS.

Chicago.

Eighth Infantry Surgeons.—The following medical officers have been commissioned and assigned to the Eighth Infantry, I. N. G.: Major Allen A. Wesley, surgeon, and Captain Edward S. Miller and Lieutenant Eugene C. Coveington, assistant surgeons.

Increasing Longevity.—A tabulation of the ages of 443,920 residents of Chicago who died between Jan. 1, 1869, and Dec. 31, 1898, enabled the health department in its April, 1899, bulletin to show that the duration of human life in this city had increased from an average of 13.9 years at the beginning of the thirty-year period to an average of 29.4 years at the close. This is an increase of duration of life of considerably more than double—111.5 per cent.—in less than a single generation.

Personal.—Dr. Hugh T. Patrick has returned from abroad. ——Dr. A. Belcham Keyes will sail for England in a few days.——Dr. William K. Jaques has been appointed superintendent and bacteriologist of the municipal laboratory to fill the vacancy caused by the resignation of Dr. Adolph Gehrmann. ——Dr. Wladyslaw A. Kuflewski, now a member of the library board, has been appointed a member of the board of education. ——Dr. Rudolph W. Holmes has been appointed obstetrician to the Passavant Memorial Hospital.

Last Week's Mortality.—At the close of the week ending July 5, there had been 453 deaths from all causes reported, an annual rate of 12.97 per 1000. For the previous week the rate was 11.31, and for the corresponding week of 1901 it was 13.59 per 1000. The excess of 56 deaths over the previous week's total was contributed by Bright's disease, 10; heart diseases, 11; pneumonia, 13, and violence, 21. The increase of deaths from disease was due largely to the low temperature and frequent rainfalls of the latter half of June; that from violence to a number of belated coroner's certificates.

KENTUCKY.

Hospital College of Medicine.—The commencement exercises of this college were held in Louisville, July 1. A class of 65 was graduated. The alumni banquet was held at the Galt House, June 30, Dr. George A. Hendon, Louisville, acting as toastmaster.

Faculty Changes.—At a recent meeting of the directors of the Louisville Medical College, the following changes in the faculty were made: Dr. Irvin Abell succeeds Dr. George M. Warner, deceased, as professor of materia medica and therapeutics; Dr. Harris Kelly was elected professor of chemistry and toxicology; Dr. Rowan Morrison, professor, and Dr. B. F. Zimmerman associate professor of pediatrics.

Wholesale Indictment.—Every one of the 37 physicians in Hopkins County was indicted at the last sitting of the grand jury. The law now requires the physicians to file a registry of all the births and deaths occurring under their professional ministrations, and it appears that the practitioners were either ignorant of the existence of the law or else considered it as a matter of such small concern as to neglect it.

MARYLAND.

Personal.—Dr. Edward R. Trippe, Easton, Talbot County, has been appointed assistant surgeon of the Fourth Regiment, with the rank of captain.——Dr. Frank T. Rich, sanitary officer of Baltimore County, has appointed Dr. E. G. Darling, subregister of births and deaths for Lauraville and Gardenville. ——Dr. Josiah Lee McComas, Oakland, fell on July 5 and fractured his right leg at the hip.

Baltimore.

Public Baths.—During June 37,836 persons availed themselves of the benefits of the public baths.

Baltimore Deaths.—There were 215 deaths in Baltimore for the week ended July 5, against 451 the same week last year, which was terribly hot. There was not a death from sunstroke. The deaths from consumption fell to 16, and from pneumonia to 5. There were 109 deaths under 5.

Personal.—Dr. William P. Chunn is spending the month at Ocean City.——The following physicians have gone to Europe: Drs. Robert Hoffmann, William A. Moale, and R. R. Warfield. ——Dr. William T. Watson has been elected professor of hygiene in the Maryland Medical College.——Dr. H. O. Reik has returned from Los Angeles, Cal.——Dr. William Gombel has returned from a visit to Darmstadt, Germany.

A Trolley Hospital.—A trolley car with all the appliances of a depot for the sick will eventually be one of the features

of Baltimore. The idea originated with Dr. C. Hampson Jones, assistant health commissioner, who believes that it will prove a practical and valuable adjunct to the hospital service. The scheme is to have the hospital car ever in readiness for a call; that it be given the right of way, and that its passage over the route be facilitated in every manner by other traffic.

The Sweatshop Problem.—The Bureau of Industrial Statistics and Information is carrying into effect the "Sweatshop Law" passed by the late legislature. All factories and workshops are to be inspected, and permits are required therefor. To secure good sanitary conditions for those compelled to work in the crowded clothing and other manufactories of a large city has long been a dream of our sanitarians, and its realization is at last in sight. Among the subjects of inquiry are the number of persons employed, size of room, furniture, sanitary conditions, etc. A free employment agency was also established by the legislature and is being carried on by the same bureau.

Johns Hopkins Endowment Fund.—President Remsen was able to announce, June 28, that the $1,000,000 endowment fund had been completed and that the future sound financial basis and progressive policy of the institution are assured. This money was all contributed by Marylanders. None of it will be used for buildings or moving. A magnificent site has been donated in the northern suburbs, including a public park and a grand boulevard, and thither the university will be removed from its present location in the city which was always considered only temporary. All anxiety concerning the finances of the university is now removed and, as Dr. Remsen said, the Johns Hopkins' "begging days" are over. It is thought wealthy citizens will also provide the buildings.

MASSACHUSETTS.

For failure to report scarlet fever, Dr. J. R. Charron, Turner's Falls, was fined $50 July 1.

Hospital for Milford.—Eben S. Draper has presented to the Milford Hospital Association land valued at $3000 on which he will erect a 2½-story brick hospital at an estimated cost of $50,000. The only condition attached to the gift is that Milford and towns in the vicinity shall provide the running expenses.

Commence Life Work.—The College of Physicians and Surgeons, Boston, held its twenty-third annual commencement exercises June 18. The exercises included greeting by Dr. John S. Flagg; conferring of degrees by Hon. Joseph Bennett, LL.D.; award of merits by Dr. John S. Gilbert and address by Dr. John S. Jackson, registrar.

Harvard Alumni Councilors.—At the annual meeting of Harvard Medical Alumni Association the principal business was the election of three councilors to serve from 1902 to 1906. Of the six names presented the following were chosen: Drs. Richard C. Cabot, Boston; Nathaniel B. Potter, New York, and George A. Harlow, Milwaukee, Wis.

MICHIGAN.

Change Hospital's Name.—The board of directors of the new hospital presented by Charles H. Hackley to Muskegon have changed the name from Mercy Hospital to the Hackley Hospital.

New Hospital for Hancock.—The new hospital which is to be erected at Hancock this summer will cost $50,000 and will be one of the finest buildings in the upper peninsula. The building will be 220 feet long and four stories high.

Summer Medical School Opens.—The summer session of the medical department of the University of Michigan opened June 23 and will continue until the second week of August. Courses are offered in 13 different subjects and are designed for graduates and advanced students.

Dr. Radebaugh Fined.—Dr. Peter Radebaugh, Sturgis, who was tried in justice court for practicing medicine without a license, was found guilty and fined $25 and costs. A test case will be made of it in the Circuit Court, as the defendant contends that the law is unconstitutional.

Department of Medicine and Surgery.—The medical department of the University held its commencement June 19 and conferred degrees on a class of 82. Dr. Austin Alvord, Battle Creek, was made master of arts; Major Walter Reed, surgeon, U. S. Army, doctor of laws, and Dr. Herman Kiefer, Detroit, emeritus professor of practice of medicine.

Typhoid Fever a Menace to Public Health.—At a recent meeting of the State Board of Health resolutions were unanimously adopted as follows:

WHEREAS, One board of supervisors and one circuit court in Michigan have declared that, in their opinion, typhoid fever is not a communicable disease "dangerous to the public health" as contemplated in the law requiring prompt action by local health officials; and

WHEREAS, Such action endangers the public health, therefore,

Resolved, That in the opinion of this State Board of Health, typhoid fever is a dangerous communicable disease, and "dangerous to the public health" in the meaning of the laws of Michigan, and it should be promptly reported to the local health officer, and by him promptly and efficiently restricted.

Resolved, That sanitarians now believe that typhoid fever is spread in several ways, as by means of urine and other excreta, which may infect drinking water, or be conveyed by direct contact, or through the air, or by flies, or as dust to food which if eaten uncooked may cause the disease; therefore, it is of great importance that local health officials act promptly and thoroughly for the restriction of the disease.

Resolved, That the best interests of the people demand that householders and physicians shall promptly report every case of typhoid fever as a "disease dangerous to the public health" as the phrase is in the law, that health officials act promptly for the restriction of every outbreak of typhoid fever, and that boards of supervisors and courts shall recognize the fact, now well known to leading sanitarians, that typhoid fever is a "disease dangerous to the public health," which by the co-operation of all classes of our officials and people may be very greatly restricted.

MINNESOTA.

Closing Exercises.—The closing exercises of the College of Medicine and Surgery of the University of Minnesota were held June 3. Addresses were made by Dr. Parks Ritchie, dean of the college; Dr. Frank C. Todd, representing the alumni association; Dr. Thomas C. Fulton on behalf of the graduating class; Dr. O. C. Strickler, for the board of regents; President Northrop, for the university at large, while the orator of the occasion was Dr. William R. Quine, dean of the department of medicine of the University of Illinois, who spoke on "The Achievements and Compensations of the Medical Profession."

Hamline Medical Department Grows.—The medical department of Hamline University, which graduated the largest class in the history of the institution a few days ago, will soon require the erection of the north wing adjoining the present structure and facing the city hospital buildings. Between fifteen and twenty instructors have been added to the teaching force the last two years, being necessitated to keep pace with the growth of the school and to carry out the best present methods of advanced clinical teaching. The following have been added to the faculty the current sessions or been advanced in their positions: Edgar M. Dunn, professor of chemistry; Dr. J. Frank Corbett, professor of bacteriology; Dr. J. A. Watson, professor of diseases of the nose and throat and pathology; Dr. Arnold Schwyer, St. Paul, professor of clinical surgery; Dr. Charles H. Malchow, lecturer on diseases of the rectum; Dr. I. J. C. Wing, instructor in orthopedic surgery and apparatus; Dr. W. H. Vittum, instructor in diseases of the nose and throat; Dr. J. S. Gilfillan, St. Paul, instructor in clinical medicine; Dr A. W. Miller, St. Paul, lecturer on skiagraphy and anesthetics; Dr. E. W. Bonkley, St. Paul, instructor in dermatology; Dr. Adolph Loberg, instructor in ophthalmology; Drs. Thomas Devereux and Elizabeth Woodworth, instructors in bacteriology, and Dr. W. S. Gloyd, lecturer on dental pathology and therapeutics.

NEW YORK.

Dr. Roswell Park, Buffalo, will spend five weeks in Europe.

Buffalo and Rochester Doctors at Castile.—Dr. Cordelia A. Greene of the Castile Sanitarium, assisted by Drs. Mary T. Greene, Mary I. Slade, Jessica W. Findley of Toronto, Clara Swain and Maria K. Hopkins of the staff of physicians, entertained last week the Physicians' League of Buffalo and the Practitioners' Club of Rochester.

The Fresh Air Mission Hospital has opened for its summer campaign in treating infantile diseases among Buffalo's poor. It is situated on the lake shore about 20 miles from Buffalo at a place called Cradle Beach. There is a corps of nurses and a house physician. The attending physicians are Drs. Irving M. Snow, Dewitt Sherman, Eugene A. Smith, Albert T. Lyth, Nelson G. Russell and Lorenzo Burrows.

Riverside Hospital.—Dr. Lillian Craig Randall, founder and owner of Riverside Hospital, Buffalo, has been licensed by the State Board of Charities to open an out-patient department. It is to be situated on the ground floor of the Fitch Institute. The department will include a dispensary for the poor and care of emergency cases. There will be a department for the treatment of tuberculous cases. A trained nurse will be in attendance to care for emergency and other cases. The following physicians will be on the medical staff: Drs. Henry D. Ingraham, John C. Thompson, George F. Cott, H. C. Rooth, J. H. Potter, Grover W. Wende, Charles Brownell,

James King, James Croff, Carroll Cummings, Thomas McKee, James Gibson, Jane Frear, and Mary Huntley.

New York City.

Quarantine in Force.—The quarantine against Cuban ports went into effect June 30 on the arrival from Havana of the Ward liner *Havana*. Passengers of that vessel not immune from yellow fever were transferred to Hoffman Island for observation.

The Health Department's Mission.—President Lederle of the Department of Health briefs the results accomplished and the work to be done by his department. Smallpox perils and soft-coal and flat-wheel nuisances have been greatly lessened. Increased hospital facilities, thorough sanitary inspection, the removal of all abattoirs from Manhattan Island, and the reduction of diphtheria and tuberculosis are some of the fields of present labor.

OHIO.

Zanesville Hospital Dedicated.—The Good Samaritan Hospital of the Sisters of St. Francis was dedicated June 27 with impressive ceremonies, conducted by Bishop Moeller, assisted by 20 priests of the Columbus diocese.

Starling Loving Will Remain.—On account of his advancing years and increasing responsibilities Dr. Starling Loving tendered his resignation last week as dean of Starling Medical College, Columbus. His resignation was not accepted, however, but the college authorities will readjust the work in order to lighten the labor that Dr. Loving must perform and to this Dr. Loving has consented.

Ohio Medical University Changes.—The college of medicine announces the following changes in its faculty: Dr. Edwin F. Wilson is made professor of clinical medicine; Dr. Theodore W. Rankin, professor of therapeutics; Dr. George M. Waters, editor of catalogue; Charles J. Pretzman, professor of medical jurisprudence; A. B. Horton, instructor in hygiene and sanitary science and W. D. Inglis, assistant in obstetrics.

Akron Hospital Debt Free.—Col. George T. Perkins and O. C. Barber have given $12,500 each to free the Akron City Hospital from debt and steps are being taken for the erection of a large addition to the present buildings. The city has increased the tax levy for the benefit of the hospital and all current expenses will now be provided for. This makes available an endowment of $100,000 offered by Mr. Barber two years ago on condition that the hospital be put in a sound financial condition.

The Cincinnati College of Medicine and Surgery, instead of going out of existence, as was erroneously announced in this department May 3, is to continue next year under a new arrangement, and the secretary announces that increased facilities in every direction will be offered. Dr. Thomas V. Fitzpatrick was, by a unanimous vote, re-elected dean, and the following were appointed on the faculty: Dr. Henry A. Ingalls, to the chair of anatomy; Dr. Benjamin F. Lyle, to the chair of practice of medicine; Dr. Theodore A. Christen, to the chair of ophthalmology; Dr. Edwin S. Ricketts, to the chair of diseases of women, and Dr. Henry W. Bettman to the chair of practice of medicine. Dr. David I. Wolfstein was made secretary and treasurer.

PENNSYLVANIA.

Philadelphia.

Dr. P. F. Moylan has been appointed a member of the visiting medical staff of St. Joseph's Hospital.

Dr. H. M. Christian, until recently adjunct professor of genito-urinary diseases at the Polyclinic Hospital, has been elected professor of this branch, to succeed Dr. Thomas R. Neilson, resigned.

Eye Hospital in Need.—Wills Eye Hospital is much in need of funds. A citizen of Philadelphia, whose identity is not made public, offers to give $15,000 for the endowment of the institution provided that $100,000 shall be subscribed by Jan. 1, 1903.

Gift to Medico-Chirurgical Hospital.—Judge E. M. Paxson, president of the Board of Trustees of the Medico-Chirurgical College, has given $5000 to the hospital for the endowment of a free bed, in memory of the late Judge Henry Chapman of Doylestown.

Hospital Bequests.—By the will of the late Valentine Geng of Upper Darby Township, Pa., bequests aggregating $36,000 are made as follows: St. Mary's Hospital, Old Colored Folks' Home, Pennsylvania Training School for Feeble-Minded Children, Presbyterian Hospital, German Hospital, Jewish Hospital, Philadelphia, and Baptist Orphanage, Angora, each $5000; Chester Hospital, $1000.

Hospital for Poor Consumptives.—The fourth annual report of the Free Hospital for Poor Consumptives shows encouraging progress. During August a sanitarium was opened at White Haven, and the result has been a general improvement in the condition of patients, 69 of whom have been maintained there at a total cost of $3040.77. More than 60 patients are being boarded at city hospitals at an average weekly outlay of $300.

Dr. Andrews Resigns.—Dr. Thomas H. Andrews, after 14 years of service as chief surgeon of the Bureau of Police and Fire, retired from the position on July 1. His resignation is said to be by request of the mayor and director of public safety. Dr. Andrews has proved an efficient official, and has made many improvements in the service. He has been succeeded by Dr. William M. Angney, who has been for several years a medical inspector in the Bureau of Health, and who during the recent outbreak of smallpox organized and directed the work of the special corps of vaccine physicians.

University of Pennsylvania Commencement.—At the one hundred and forty-sixth commencement of the University of Pennsylvania, on June 18, the degree of doctor of medicine was conferred on 151. Dr. Nicholas Murray Butler gave the commencement address. At the meeting of the Medical Alumni Society a portrait of the late Dr. William F. Norris, for many years professor of ophthalmology in the University Medical School, was presented to the University, on behalf of his family, by Dr. George A. Piersol. Dr. Frederick A. Packard received it on behalf of the trustees. Dr. John A. Witherspoon, an alumnus, now professor of clinical medicine and the practice of medicine at Vanderbilt University, addressed the society.

GENERAL.

President McKinley's physicians, who have brought in no bills for services rendered in his last illness, are provided for by a clause in the Deficiency Bill before Congress to grant them $45,000.

Marine-Hospital Year's Work.—Among the items reported for the fiscal year just closed by the U. S. Marine-Hospital Service are 58,381 seamen of the merchant marine treated and 1369 operations requiring anesthetics were performed.

The International Sanitary Conference, which meets in Washington, D. C., in October, will be officially represented by the following delegates of the U. S.: Drs. Walter Wyman, Washington, surgeon general, Marine-Hospital Service; J. Rosenau, Washington, director hygienic laboratory, Marine-Hospital Service; H. L. E. Johnson, Washington, American Medical Association; Arthur K. Reynolds, Chicago, commissioner of health; Edmond Souchon, New Orleans, La., president Louisiana State Board of Health; J. Y. Porter, Jacksonville, State health officer of Florida; Alvah H. Doty, New York, quarantine officer; L. M. Powers, Los Angeles, health officer; Dr. Charles B. Adams, member Iowa State Board of Health, Sac City; Dr. Frank W. Porterfield, Atlantic, Iowa, Dr. Fred W. Powers, member Iowa State Board of Health, Reinbeck, and Dr. James Taggart Priestly, surgeon general of Iowa, Des Moines.

Smallpox.

Colorado: One death occurred during May, and 130 new cases were reported, a decrease of 61 cases as compared with April.

Illinois: The fourth death from smallpox in Chicago since the first of the year occurred at the Isolation Hospital last week. The victim was a negro, 27 years of age, never vaccinated, and died of the confluent form of the disease—a most hideous spectacle. Seven new cases, two negroes, were removed to the hospital, making a total of 253 cases since Jan. 1, 1902. Of these 217 have been discharged recovered, 4 died and 31 remain under treatment. The death rate of the completed 221 cases is 1.81 per cent., which, considering the gravity of many of the cases, and that they were all unvaccinated, is a remarkably low figure.

Indiana: Knightstown has had 36 cases with one death. ——West Hammond is in a panic because of 16 cases, said to have been imported from Poplar Bluff, Mo.

Kansas: Dr. W. B. Swan, secretary of the State Board of Health, in his smallpox report shows that during May there were about 300 cases of smallpox in the state, while during April, 457 cases were reported. The disease has been of a very mild character. During the past five months 1953 cases of smallpox have been reported to the State Board of Health, with only two deaths.

Kentucky: Grant County reports 30 cases, several of which are near Williamstown.——The quarantine at Lexington was raised June 30.

Massachusetts: There are 3 cases of smallpox in the Attleboro pesthouse, the first in town, and it is rumored that there is one case at Taunton.——The schools in Cambridge have been closed on account of the prevalence of the disease, and all but two of the churches have been closed. The disease is confined almost exclusively to the Cambridgeport section, and no cases have been reported around Harvard Square or in the college section.——The State Board of Health reported, in the House of Representatives, on its investigation of the feasibility of manufacturing pure vaccine lymph. The board recommends extending to the manufacture and distributing of free vaccine lymph the system which has been in vogue in regard to diphtheria antitoxin since 1895. It recommends the construction of a building for the housing of animals, and says that future demands should be based not on population, but on the birth rate. If the vaccination is thoroughly carried out by local sanitary officials, it is estimated that 150,000 persons will be vaccinated annually, of whom 60,000 will be infants, 50,000 revaccinations and 40,000 immigrants. It is estimated that the buildings necessary will cost $20,500, and that the annual expenditure for salaries, etc., will be $6500.

Mississippi: Dr. J. F. Hunter, secretary of the State Board of Health, has received reports from county health officers showing that smallpox now exists to a limited extent in 15 of the 75 counties in the state. The state has been unusually fortunate regarding this disease for the past several months, however, and at no place has it assumed the form of a general epidemic or become prevalent to an alarming extent. The type of the infection has been quite mild and the death rate very low.

Missouri: Miss Josie Pomfret was awarded $900 in the Circuit Court at Independence, in her suit for $2500 against M. J. Cook of the Hotel Independence. The plaintiff alleged that the defendant's family had smallpox at the time she was a guest at the hotel and that the fact was kept secret, the result being that she contracted the disease.

New York: Smallpox has become so prevalent in Westchester County that several of the schools have been closed as a measure of precaution. Cases are reported in Yonkers, Mamaroneck, Mount Vernon, Pleasantville and Bronxville. Albany has 32 cases, of which 20 are in the smallpox hospital and 12 are quarantined at home. Two new cases of smallpox have appeared in Buffalo.——At Niagara Falls a number of cases of smallpox has appeared. Eleven patients are now in quarantine.

Ohio: Cleveland had 52 new cases and 5 deaths.——A general outbreak and panic is reported at Glandorf, with 50 cases and "several deaths."

Virginia: Dr. James G. Riddick, mayor of Norfolk, is authority for the statement that there is now in the city 40 cases of smallpox of malignant type, and that an average of three persons are sent every day to the pesthouse.——More than 20 cases are reported at Mudlick mines, Wise County.

Wisconsin: According to the report of Secretary U. O. B. Wingate to the State Board of Health, there is a total of 305 smallpox cases in the state, against 1521 in January. A total of $9000 has been expended in fighting the epidemic. It was the opinion of the members of the board that the most dangerous period had passed.——At Racine seven deaths have occurred.

Alaska: On account of the prevalence of smallpox at Nome, and the danger of an epidemic under the rather crowded and unsanitary conditions prevailing in the mining camps, the government proposes to establish a marine hospital and detention camp at some distance from the town. The Treasury Department has asked the Interior Department for jurisdiction over Sledge Island, a small body of land two or three miles from the shore and about twenty miles north of Nome. As soon as jurisdiction is transferred a temporary barracks for smallpox cases will be erected.

Porto Rico: Major Azel Ames, late brigade surgeon, U. S. V., summarized the results as follows:

In October, 1898, smallpox was endemic in Porto Rico; in December it was epidemic; in January, 1899, it had "honeycombed" the island, and by February there were over 3,000 recent cases and the disease was spreading at a gallop. Systematic compulsory vaccination, carefully and scientifically conducted and recorded, was begun in February, simultaneously and with nearly equal efficiency in all parts of the island. It was vigorously prosecuted for four months only, till July 1, when 860,000 vaccinations had been made in a population of about 960,000. Of these 87½ per cent. were successful. The work then ceased, because completed; the disease had practically disappeared; fuel for it to feed upon had been consumed by the "head-fire" of vaccination.

In the two and a half years that have elapsed since that time instead of the former annual average death rate of 621, the mortality resulting from smallpox has been but 2 per annum, in a population of nearly a million.

Labrador: The outbreak of smallpox is growing more serious. The fisher folks on the northwest coast of Newfoundland are appealing to the colonial government to urge the Canadian ministry to prohibit intercourse between the infected locality and the remainder of the seaboard where the ravages of smallpox would be very severe, did the disease once spread to it.

FOREIGN.

New Surgical Clinic at Vienna.—A third surgical clinic has been added to the Vienna University. It has been placed in charge of Hochenegg.

Professor at Ninety.—The incumbent of the chair of forensic medicine and toxicology at Berne, Dr. K. Emmert, recently celebrated his ninetieth birthday.

Equality in Hygiene.—The ordinary official placard announcing a case of typhoid fever duly appeared at the entrance of the Palace of Loo, in accordance with local regulations, during the illness of Queen Wilhelmina of Holland.

Exclusion of Tuberculous Children from the Public Schools.—The *Muench. Med. Woch.* announces that the authorities of Memingen have issued a decree that after October 1 all tuberculous children will be excluded from the public schools.

Resignation of Rabow.—Professor Rabow has resigned the chair of materia medica at Lausanne. He previously was professor of psychiatry, and has published many works on these two specialties. He is one of the editors and proprietors of the *Therapeutische Monatshefte.*

Garnault's Voluntary Inoculation with Bovine Tuberculosis.—The *Presse Médicale* mentions without comment that Dr. Garnault of Paris, who is convinced that Koch was mistaken in his assertion that bovine tuberculosis is not transmissible to man, has deliberately inoculated himself with tuberculous products taken from the ganglia of a tuberculous cow at the Villette slaughterhouse.

Coronation Honors to Members of the Profession.—Among the honors conferred on the occasion of the coronation Sir Francis Henry Laking, physician in ordinary to the king, is made a baronet. Sir William Selby Church, president of the Royal College of Physicians, a knight commander of the Bath. Lord Lister is also mentioned and Dr. Conan Doyle, and a number of army and navy medical officers in South Africa.

Hydrophobia in Prussia.—The regulations in regard to the muzzling of dogs, etc., are strictly enforced in Prussia, and there was only one death from hydrophobia last year. In 1900 223 persons were bitten by animals suspected of being mad, and 187 in 1901. Of the latter 145 received treatment. The one person that died did not suspect the animal of being mad and did not apply for special treatment. Death occurred forty-two days after the bite.

A Physician Premier of France.—During the last thirty years a number of physicians have served in France as chiefs of the various state departments, public instruction, etc. The president of the republic has recently appointed Dr. E. Combs to preside over the "Conseil des ministres." He is minister of the interior, and has previously served as minister of public instruction after leaving his practice at Pons for a place in the senate in 1885. Our French exchanges observe that he was not selected on account of his profession, but that nevertheless it is a satisfaction to know that one of its members is qualified for this important post, and has been thus honored. The French legislature has now 55 medical members, 9 per cent. of the total number.

Prizes Awarded at the Exposition of Medical Educational Appliances.—The success of this exposition, held recently in Berlin, was so complete that the local medical press urges the Berlin Medical Society to organize a similar lecture and demonstration for the physicians of the capital every month. The various appliances, phantoms, apparatus for preserving specimens, etc., were "demonstrated" by lecturers, including von Bergmann, von Leyden, Wassermann of the biologic blood test, Liebreich, and others. Doyen came from Paris to "demonstrate" the kinematograph, and was awarded a gold medal, as also Kaiserling of Berlin for his famous method of preserving specimens in their natural colors, and the firm of C. Zeiss of Jena. This unique exposition was organized by the government department of public instruction, and seldom has an official innovation met with such appreciative welcome.

Competitive Research on Poisoning from Salted Fish.—The Academy of Sciences of St. Petersburg has offered prizes for the best study on the measures necessary to prevent poisoning accidents from the use of salted raw fish. The communications may be in English, French, German, Latin or Russian, and must be received by the minister of agriculture not later than October 1, 1903. The competition is open to the world.

"La Medicale."—The insurance society organized and carried on exclusively by members of the profession in Belgium, is meeting with great success. After two years of existence it now reports an annual income from premiums of 120,000 francs, or about $24,000. This is considered very good business for a new enterprise. It is proposed to have some member of the board visit each of the local medical syndicates in turn at least once during the year to report progress and aid in the propaganda. He will be accompanied by an examiner, and can attend to local business on the spot.

International Medical Congress, Madrid, April 23 to 30, 1903.—The official preliminary regulations and program of the approaching "triennial parliament of the healing art," have been duly received at this office. It is announced that the official languages at all the sessions will be Spanish, French, English, German and Italian. There are to be sixteen sections, and thirteen addresses at the general sessions, to be made by Laache ("Reciprocity in Pathology"), Thomson, Pavlov, Waldeyer ("Phylogenetic Theories and Darwinism"), Maragliano ("The Struggle of the Organism Against Tuberculosis"), Coni ("Public Medicine in South America"), Santos Fernandez ("Eye Diseases in a Tropical Country"), Brouardel ("Adulteration of Food and Its Influence on the Development of Certain Maladies"), Politzer ("Necessity of Official Instruction in Ontology"), Howard A. Kelly ("Urinary Infection"), Ramon y Cajal, Carracido and Mendez. The titles not mentioned are reserved for the present by the authors. Among the speakers announced for the sections are Golgi and Holmgren on the structure of the nerve cell; Marchiafava on the parasitic origin of neoplasms, and Lustig on vaccination with culture and chemical fluids, several Italians on intravenous medication, Brunton Cervello, Bardet and Robin on the relations between the chemical composition of drugs and their physiologic action, Tuffier, Postemski and Pi y Suner on spinal cocainization, Hayem and Capo on the dangers of exaggerated medication in chronic diseases, Queirolo on diet in typhoid fever, and Cardenal, Novaro, Ceccherelli and Hartmann on the indications for surgical intervention in gastric affections. Among the American names on the program is Dr. R. Harvey Reed of Rock Springs, who is to describe a method of fixation of the kidney and also the implantation of the ureter in the rectum; Freudenthal of New York, who speaks on atrophic rhinitis; A. V. Harlan and Younger of Chicago in the section on odontology, and Palmer Dudley of New York, in the section of gynecology. The second article of the regulations has occasioned much surprise. It reads in a literal translation as follows: The congress will be composed of physicians, pharmacists, dentists, veterinarians and other persons engaged in the practice of one of the different branches of the medical sciences, at home or abroad, who have been duly inscribed and paid their fee. May also participate in the congress, on the same conditions and with the same rights as physicians, all those who being in possession of a professional or scientific title, may wish to attend and take part in its proceedings, as also representatives of the press. The *Semaine Médicale* does not hesitate to say that this invitation to invasion of the congress by outsiders sounds its death knell as an international medical congress unless this regulation be amended. As has been previously announced, the national committee for this country is represented by Dr. A. Jacobi, New York, president, and Dr. John H. Huddleston, 126 West 85th Street, New York, secretary. The complete list of the committee, with other details in regard to the congress, was published in THE JOURNAL of April 19, p. 1017, and March 29, p. 835.

LONDON LETTER.

The Smallpox Epidemic.

There are 861 cases of smallpox in hospital against 1035 last week; the admissions during the week were 107 against 251, 188 and 157 in the three preceding weeks, and the deaths were 24, against 48, 29 and 29.

The King's Illness.

Consternation prevailed in the vast crowds which thronged the metropolis from all parts of the empire to witness the coronation ceremonies when the announcement was suddenly made that they were postponed in consequence of serious illness of the king. It had been known that the king had not been in the best of health, but serious illness was entirely unexpected. On the 24th the necessity for operation became clear. Before operating Sir F. Treves took the advice of two other sergeant surgeons to the king, Lord Lister and Sir Thomas Smith. A large peri-appendiceal abscess, 4½ inches deep, containing decomposing pus was opened. Progress has so far been satisfactory.

The Plague.

For the week ending May 24 the number of deaths from plague in all India was 5500, against 7008 in the previous week, and 1427 for the corresponding week of 1901. In Egypt for the weeks ending June 1 and 8 the number of fresh cases was 14 and 4 respectively, a marked diminution on the numbers of the preceding two weeks, which were 33 and 28. The deaths from plague in the weeks ending June 1 and 8 were 6 and 2 respectively. The list of towns and districts in which plague exists is rapidly declining. An enormous amount of work is being done by the sanitary department. During the week ending June 1, 13,678 rooms were disinfected, 1552 rooms were limewashed, 55 sacks of effects disinfected, 1029 sacks of rubbish burned, and 1053 rats killed. At the Cape, in the weeks ending May 17 and 24 respectively, the fresh cases of plague, all of which occurred in Port Elizabeth, numbered 2 and 1. In the latter week 2 persons died of plague at Port Elizabeth. On May 24 6 persons remained under treatment. Since the commencement of the outbreak until May 24 897 cases of plague have occurred in Cape Colony with a death rate of 48 per cent. In Hong Kong during the week ending June 7 there were 53 cases of plague and 52 deaths from the disease.

Inherited Recurrent Attacks of Jaundice and Abdominal Crises with Hepato-Splenomegaly.

At the Clinical Society, Sir T. Barlow and Dr. H. B. Shaw communicated a paper on this rare and interesting condition. The patients were a lad aged 19 and his mother aged 47. At birth the youth was noticed to be very delicate and was pale and waxy looking. At 5 jaundice was first noticed. Since then there were attacks of subicterus, lasting three or four days, with pain in the upper abdomen. For the last six years there had been indolent ulcers about the ankles. None of his brothers or sisters suffered in this way, but one brother had an attack of jaundice in childhood. On admission to hospital, in 1899, he looked anemic and yellow. The liver was moderately enlarged, the spleen greatly enlarged, reaching two inches below the level of the umbilicus. The stools were always brown. The urine was often highly colored; no bile could be demonstrated, but urobilin was detected, spectroscopically. In May, 1901, there was practically no change in the size of the spleen, but slight reduction of the liver. The mother had her first attack of jaundice at 5, and thereafter repeated attacks. With the jaundice were pains in the upper abdomen and vomiting. Urobilin and bile were absent from the urine. There was an indolent ulcer of the left leg. Very similar attacks in three generations have been described, and in several collateral members of a family. The special points in the above cases are: 1, chronicity; 2, indolent ulcers on the legs; 3, constant jaundice, with periodical painful exacerbations.

Ear Disease in School Children.

Mr. Cheatle has presented to the Otological Society an important paper based on the examination of 1000 school children. His conclusions are certainly—to use his own words—"startling." In 43 per cent. of the children the ears were approximately normal—that is, capable of hearing a whisper at 18 feet distance. In 50 per cent. there was disease of the middle ear causing deafness. The latter is made up of three great groups of cases. The first comprises non-suppurative cases, in which the deafness was due to Eustachian obstruction with depression of the drum-head. One third of the middle-ear cases belonged to this class—16½ per cent. of the 1000 examined. Of this 16½ per cent. 6½ was associated with enlarged tonsils and adenoids, 7½ with adenoids alone, while in 2½ the throat and naso-pharynx were free. The second group consists of cases in which chronic suppuration of the middle-ear was present. This group only included about one-sixth of the middle-ear cases, or 9 per cent. of the 1000 examined. Of this 9 per cent. enlarged tonsils and adenoids were present in 2 per cent., adenoids alone in 5 per cent. and the throat and naso-pharynx were free in the remaining two. In the third group are classed post-suppurative middle-ear troubles. This group included one-half of all the middle-ear cases, an enormous total—24½ per cent. of the 1000 examined. This 24½ per cent. was made up of 5½ per cent. associated with enlarged tonsils and adenoids, 11½ per

cent. associated with adenoids alone and 7 per cent. in which neither form of growth was present. If present and past suppurative troubles be considered together it is evident that one-third of all the children examined were affected. Of the children in group 3, 88 suffered from chronic suppuration in one or both ears.

Correspondence.

Short Cuts to Nursing.

NEW YORK CITY, June 23, 1902.

To the Editor:—Dr. Helen C. Putnam's article on "Attendants and Nursemaids," in THE JOURNAL, opens up to the consideration of the medical profession a large subject which trained nurses have been discussing for some time. Naturally, from the limitations of their professional initiative there is little that nurses can do in the matter of new fields of training, but I would be grateful for the privilege of presenting their views on this subject to THE JOURNAL and through its pages to the medical profession, who have not only influence (which we earnestly desire to see used for what we feel to be the best good of our work) but also direct initiatory power which we sometimes are forced to think they use, in nursing matters, in ways which we feel to be detrimental not to us only, but ultimately to the safety of the patient.

In a recent editorial you say: "It is not only right but a duty to discourage short cuts into the medical profession, and so far as any kind of schools have this aim they deserve only condemnation." May I use this as a text to define and defend the general attitude of trained nurses in regard to the work of nursing; that short cuts are to be regarded with doubt at least, possibly with concern?

My purpose is not to criticise Dr. Putnam; I feel that she has done us a service in pointing out the inadequacies and pitfalls of what we may call philanthropic nursing courses; I understand her attitude as being one of friendliness, and appreciate her effort to define lines which would remedy the confusion now existing in nursing matters. There is no doubt that at present these "Courses for Training Attendants" or whatever they are called, are a serious clog on nursing education of a thorough kind, and also a distinct injustice to the graduate nurse. My experience has shown me that these so-called attendants are not really reserved for the chronics, old people and minor ailments for which they are supposed to be taught, but that they are continually being called upon for acute cases, pneumonia, and other serious illnesses, simply because they are cheap; and, often, by people who can afford the trained nurse and her prices. This is a three-fold injustice; to the nurse of full training, to the patient who is in the care of an incompetent person, and last, but not least, to the attendant herself, who often finds herself on twenty-four-hour duty with critical conditions for which she has not been instructed. I have heard these women complain of this injustice and felt that they were justified in raising their terms to those of the graduate nurse.

I am convinced that the nursing profession feels a sincere care and anxiety for people of small means. None of us would disapprove any sound and genuine method of preparing good women to care for cases not requiring the full ministry of the trained nurse, but the training must be genuine, not shoddy, otherwise we can not but resent it. Dr. Putnam's suggestion that sanatoria should educate such helpers is a good one, because based on practical work. Her idea of the trained nursemaids, also an excellent one, has been in practice for some years in the Babies' Hospital of New York City, and is most successful. These nursemaids earn twenty-five dollars a month with their cases.

The specious quality about all short cuts to nursing is that the education given is almost entirely theoretical, not taught by the bedside of the patient, and this, may I say with frankness, is sometimes overlooked by the medical profession, in whom we can not excuse the fault as easily as we excuse it in our philanthropic friends. There are at present being carried on, in Philadelphia and in Chicago, prominent examples of so-called nursing courses which are taught by theory, and following their bad example, many smaller places are adopting the same methods in a less pretentious manner. Nurses feel that the names of medical men ought not to be found on the prospectuses of such educational plants, as they should know as well as we do that the peculiar essence of nursing lies in the personal relationship—that almost sacredly intimate and close relationship of nurse and patient. The art of gentle handling, the cultivation of sympathy, the psychical comprehension between the feeble and the strong, can only be learned by the bedside. It is not enough to know technic; there is a need of daily practice, of repetition of detail, of subtle discipline, also of patience and sureness, which cannot be learned in laboratory or lecture room.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, as well as Dr. Putnam, will earn the gratitude of nurses, if its influence is used in behalf of genuine methods of teaching only, for the nurse as well as for the physician.

I am very truly yours,

LAVINIA L. DOCK,
Secretary, The American Society of Superintendents of Training Schools for Nurses.

Morton's "Genito-Urinary Diseases."

BROOKLYN, N. Y., June 20, 1902.

To the Editor:—In looking over THE JOURNAL for May 31, 1902, on page 1459, I notice that the reviewer of my book on "Genito-Urinary Diseases and Syphilis," published by F. A. Davis Company, has misquoted me on certain points. He has also criticised the omission of certain matters which I had mentioned, but which he has overlooked in a hurried reading. The points are as follows:

1. With regard to the Harris segregator, I have mentioned its use on page 237 of my book, as an alternative to catheterizing the ureters in pyelitis, in order to determine whether the right or left kidney or both, are diseased, but by a typographical error the instrument is spoken of as the "Harrison Segregator."

2. I did not mention the relief of kidney tension by nephrotomy, because the book was in press at the time that the first articles on that subject appeared.

3. The reviewer's statement of my views of the value of castration and vasectomy in enlarged prostate, is entirely erroneous. Castration has a certain limited field of usefulness, and I have endeavored to point out the small class of cases to which it is applicable. On page 215 I say in regard to vasectomy that "Albarran and Motz conclude that vasectomy temporarily lessens the congestion of the prostate and an improvement in the symptoms occurs. There is nothing to prove that the operation causes an atrophy of the hypertrophied prostate or that the residual urine is diminished if the operation is made when the prostate is not congested. There are also no records to show that after the operation the bladder is able to empty itself."

If the reviewer had differed from me in some of my views on questions which are still under discussion, I should have accepted such a criticism without comment, but as the review now stands, the work which I have done has been misquoted and my conclusions misinterpreted, as a result of the careless, hasty and incomplete reading of the reviewer.

If you will kindly print this communication in the pages of your valued JOURNAL, it may serve to correct some false impressions in regard to my book in the minds of your many readers. Very truly yours, HENRY H. MORTON.

40 Schermerhorn Street.

Desires No Change in the Code of Ethics.

SHELBYVILLE, IND., July 4, 1902.

To the Editor:—Feeling rather patriotic to-day, with my trust unshaken in the old flag, and the old Code, as a humble member of the regular medical profession, and having been governed by its teachings for nearly fifty years, I enter my protest against any revision of the old Code.

This proposed revision does not revise, but only clothes in slightly different language the various articles and sections of the old Code, which some of us still cling to, and believe that it is almost sacrilege to lay hands on.

As usual, with all those who are dissatisfied with the old Code, Section 4 is the one that the author of this alleged revision stumbles over; and if any reader of your valuable journal can tell us old regulars just what we are to do in reference to consultations, after reading Section 2 and Section 3 of Article IV of this proposed new Code, I would be pleased to hear from him. Very respectfully, W. G. McFADDEN.

State Boards of Registration.

The Kansas State Board of Medical Registration and Examination at Topeka, June 10 and 11, 1902, examined 14 candidates, in 11 subjects and 110 questions, all of whom passed. The examination was written and 70 per cent. was required.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	H.	Hahnemann Medical College, Chicago	1902	79
2	R.	Laura Mem. Woman's M. C., Cincin..	1902	79
3	R.	Northwestern U. Med. Coll., Chicago	1898	85
4	R.	Barnes Med Coll., St. Louis.....	1902	82
5	R.	Coll. Phys. and Surgeons, Chicago..	1901	78
6	R.	Northwestern U. Med. Coll., Chicago	1902	86
7	R.	Northwestern U. Med. Coll., Chicago	1902	85
8	R.	Kansas Med. Coll., Topeka.....	1902	82
9	R.	Indiana Med. Coll., Indianapolis....	1902	82
10	R.	Rush Medical College, Chicago.....	1902	91
11	R.	Coll. of Phys. and Surgeons, Chicago	1902	79
12	R.	Rush Medical College, Chicago.....	1899	79
13	R.	Northwestern U. Med. Coll., Chicago	1902	85
14	R.	Univ. of Michigan, Ann Arbor.....	1895	89

The New Mexico Board of Health has just closed its semi-annual meeting at Santa Fe and made radical changes in the rules for issuing licenses to practice after July 1. The board will recognize the diplomas of only five medical schools: Harvard, Johns Hopkins, Columbia, and the Universities of Pennsylvania and Missouri, and only diplomas of these institutions issued after July 1, 1902, will admit to practice in the Territory without examination all of the applicants appearing therefor at Santa Fe the first week in June or the first week in December of any year. The resolutions of the board state that other colleges will be added to these five as the board receives satisfactory information concerning the requirements, but in case of any additional colleges recognized later, only diplomas issued after July 1, 1902, will be recognized. The board feels that they have had undue trouble in getting satisfactory information concerning various medical institutions of reputation, and, therefore, the initiative for recognition will have to be taken up by the colleges that wish to be recognized.

New Jersey Examination.—The annual meeting of the State Board of Medical Examiners of New Jersey was held at Newark, July 5, and licenses were granted to the candidates who successfully passed the state medical examination at Trenton on June 17-18. Dr. E. L. B. Godfrey of Camden, secretary of the board, reports that 48 candidates were examined; 40 were licensed, 1 was expelled and 7 failed to pass, making a rejection of 16.6 per cent. Twelve midwives were examined, 5 were licensed and 7 rejected, making a rejection of 58 per cent. Physicians were examined in 9 subjects; 2 hours were given to each section, and 10 questions were submitted in each. A total average of at least 75 per cent., or 675 points out of a possible 900, was required to obtain a state license. The policy of the board in establishing and maintaining reciprocal relations with other states whose examining and licensing requirements are at least equal to those of New Jersey, has met with the approval of the profession. The number of states which have entered into reciprocity of medical license with New Jersey is steadily increasing. The following officers were elected: President, Dr. John J. Baumann, Jersey City; secretary, Dr. E. L. B. Godfrey, Camden; treasurer, Dr. A. Uebelacker, Morristown. The next examination will be held in September.

Texas Report.—The Board of Medical Examiners of this State examined 57 candidates at Waco, May 13 to 15. Of these, 45 passed, ten failed and 2 had an average on the 12 branches of more than 75 per cent., the amount required to pass; but they received less than 50 per cent. on one branch. The rules say that such candidates will be allowed another examination on said branch, and if they obtain more than 50 per cent. they will have passed. The candidates are tabulated below, save those of whose educational preparation no data are furnished. The next meeting of the board will be held in Dallas, October 7. Information may be obtained from the secretary, Dr. M. M. Smith, Austin.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
W. A.	R.	Univ. of Texas, Galveston	1902	94.4
J. A.	R.	" " "	1902	85.8
C. C.	R.	" " "	1902	87.9
J. J.	R.	" " "	1902	87.4
D. L.	R.	" " "	1902	94.4
W. R.	R.	" " "	1902	84
J. T.	R.	" " "	1902	96.9
J. T.	R.	" " "	1902	91.4
H. A	R.	Sewanee (Tenn.) Medical College	1901	83.8
P. B.	R.	Barnes Medical College, St. Louis	1898	88.9
W. F.	R.	" " " "	1899	91.2
G. B.	R.	Tulane University, New Orleans	1902	86
W. T.	R.	" " " "	1902	75.1
J. W.	R.	" " " "	1902	88.7
L. C.	R.	University of Nashville, Tenn	1900	87
S. L.	R.	" "	1899	90.5
J. E.	R.	University of Georgia, Augusta	1890	75
M. G.	R.	Northwestern Univ. Med. Col., Chicago	1900	87.2
E. H.	R.	Medico-Chirurgical, Kans. City	1899	77.5
I. J.	R.	Vanderbilt University, Nashville, Tenn	1899	85.8
C. J.	R.	Hospt. College of Medicine, Louisville, Ky	1901	80
B. K.	R.	Rush Medical College, Chicago	1891	94.2
E. K.	R.	University of Arkansas	1902	80.5
S. M.	R.	Memphis (Tenn.) Hosp. Med. College	1902	90.5
J. W.	R.	" " " " "	1902	79.9
L. L.	R.	Birmingham (Ala.) Med. College	1902	87.8
L. M.	R.	Medical College of Ohio, Cincinnati	1897	79.3
E. N.	R.	University of Louisville, Ky.	1891	75.3
R. S.	R.	" "	1891	89.2
A. P.	R.	University of Dallas, Texas	1902	85.6
J. S.	R.	University of Tennessee, Nashville	1898	85.1
R. S.	R.	University of Virginia, Charlotteville	1901	81.6
R. W.	R.	Starling Medical College, Columbus	1902	89.8

CONDITIONALLY PASSED.

. .	R.	Northwestern University, Chicago	1901	77.4
. .	R.	Barnes Medical College, St. Louis	1898	76.2

FAILED.

. .	R.	Cleveland (Ohio) Medical College	1873	71.3
. .	R.	Tulane University, New Orleans	1885	69.9
. .	R.	University of Tennessee, Nashville	1893	65.9
. .	R.	Atlanta (Ga.) Medical College	1888	62.4

UNDERGRADUATES WHO PASSED.

Candidate.	Sch. of Pract.	Student in College.	Courses of Study.	Per-cent.
F. A.	R.	Meharry Med. Coll., Nashville, Tenn	3	80.1
F. E.	R.	" " " "	3	75.9
J. B.	R.	Memphis (Tenn.) Hosp. Medical College and Louisville (Ky.) Med. Coll.	3	84.9
G. B.	R.	Fort Worth (Texas) Med. Dept	1	78.8
T. B.	R.	Barnes Med. Coll., St. Louis	2	76.5
T. D.	R.	Louisville (Ky.) Med. Coll.	3	80.1
J. H.	R.	Univ. of Texas and Sewanee (Tenn.) Medical College	3	88.4
E. H.	R.	Coll. of Phys. and Surg., St. Louis	3	85.1

Miscellany.

The House of Delegates of the American Medical Association was created to be the legislative assembly of the medical profession of the United States. Its first meeting at Saratoga brought out prominently the possibilities for effective work that are inherent in its method of organization. That the work of this body at its first meeting was not perfect need hardly be said, as no new machine ever made its trial trip without developing some friction. However, it can truthfully be said that the House of Delegates at Saratoga so performed its duties as to encourage its friends and as to quiet its critics. One criticism somewhat frequently passed upon it was that its work was not deliberative. Matters were referred to various committees, whose report was adopted or rejected with but scant discussion. The reason for this is not far to seek. The men composing the House of Delegates were the same men who for years have been endeavoring to get the old general session to legislate intelligently upon various topics that demanded elucidation at the hands of the representative gathering of American physicians. Their experience with that method had taught every one of them that prolonged discussion meant always defeat or postponement. This lesson could not be readily unlearned, and so they were moved by a somewhat feverish haste to have important matters passed upon before they were killed by tiresome discussion. Because of the large membership of the House it is clear that much of its work

must be done through committees, just as the work of Congress and of our state legislatures is accomplished. Yet we must have ample provision for free debate upon important topics before they are finally passed upon. We are gratified to learn that the new Business Committee which will arrange a program for the next meeting of the House already has under consideration a plan to bring out full discussion in such a way as to ensure no interference with the decisiveness of final action. With this provided for the House of Delegates will be fully entitled to the respect, confidence and support of all American physicians.—*American Medicine.*

Dr. **Wyeth's presidential address**, presented in full in the present number of *American Medicine*, by the courtesy of the editor of THE JOURNAL of the Association, met most admirably the demand of the occasion. Unity and harmony, applied to the Association, to its business and social methods, and to the grand opportunity opening before the entire profession of our country, were the consistent motives which inspired Dr. Wyeth as president of the newly-organized Association. The statement made as to the changes in organization clearly sets forth the conditions of the new government and representation, whereby the inchoate and unwieldy body of the past has been replaced by one that is democratic, American and business-like. The advice to the House of Delegates that they consider the present evils of licensure and report upon a plan of reform is, as our readers know, what we have repeatedly advocated. The discontinuance of many independent medical societies and their union with the national organization was also advice which we hope may soon be acted upon. That also as to the place of meeting, and especially in regard to the old habit of shifting upon the local profession so large a share of the expenses of the meeting, was indicative of the renewing desire to avoid every form of commercialism. Dr. Wyeth wisely calls upon all physicians to heed not the flatterings of professional pride, but the warnings of self-scrutiny, and to realize the incomplete duty of higher medical education and of more efficient organization. Such a reformation of the code of medical ethics and customs, as well as of state laws, must be undertaken as will do away with all the present hindrances to professional unity and power.—*American Medicine.*

The Meeting of the American Medical Association at Saratoga Springs will be a memorable one in the history of the Association. It is a very long time, measured by the length of years of the Association, since a meeting has been held in New York State, and for the greater part of the interval the State Medical Society, the parent we may say of the National Association, has been under the ban, and its members have been subjected to much that was unpleasant to bear. But time has done its usual work, the heresy of the state society, when viewed at close range and with eyes unclouded with prejudice and passion, is seen to be little or not at all different from orthodoxy, and Saratoga will doubtless be remembered as one of the resting places on the road to final harmony. A committee on revision of the code of ethics was appointed, but no action will be taken until next year. It is understood, however, that certain obstacles to the complete union of the medical profession in this state will soon be removed. The meeting was also the first under the plan of reorganization, the House of Delegates being charged with all the political and non-scientific business coming up for consideration, to the great and manifest improvement in the character of the general sessions. The fact that only the first of the general sessions was held in the morning relieved the pressure on the program of the sections, and gave the members more time for serious discussion. The new plan worked with less friction than had been anticipated, but it was suggested that hereafter the routine business of the House of Delegates be despatched just prior to the first regular session. The attendance was very much smaller than had been looked for, not more than fifteen hundred members having been registered. Dr. Wyeth, as it was known he would, made a dignified and acceptable presiding officer, and to him is due much of the credit for the success attending this fifty-third meeting of the Association.—*Medical Record.*

The Fifty-third Meeting of the American Medical Association, which was held at Saratoga, June 10 to 13, was, in many ways, one long to be remembered. It marked the evolution of the Association from a medical convocation into an organized profession which, in the future, if we mistake not, must be reckoned with by all political parties. Not that the quality of the scientific work was less valuable than in former years, for the program was as good or better than that usually presented, but the chief interest of the meeting centered about the experiment in organization and the use of the House of Delegates as the business section of the Association which has grown cumbersome from its size. The unanimous verdict of those present so far as we have learned, is that the personnel of the House of Delegates was all that could be desired and its work better than could reasonably have been expected from a first session. Not that everyone was satisfied, for, if we are to believe the Miltonian legends, that proved impossible in heaven and possibly from the same reason the same thing occurred at Saratoga. The honors of the meeting are due to the committee appointed at the St. Paul meeting, which has successfully reorganized not only the American Medical Association, but the state and county societies as well, building them up into a well-compacted and fitly joined organization with workmanship of which they have the greatest reason to be proud.—*Chicago Clinic.*

The House of Delegates.—The new legislative body of the American Medical Association gave ample evidence that it can dispatch work much more efficiently than was possible in the general session heretofore. It contained many representative men, who showed a willingness to devote themselves to its business at no little sacrifice to themselves. It had to struggle against some disadvantages, due to the newness of the work and to the fact that an untimely fire at Saratoga drove it from its original quarters. The urbanity of President Wyeth and his rather low articulation were, perhaps, not conducive to a quick dispatch of business, but after the first day the progress made was more expeditious. This first experience has proved several things. The sessions should, if possible, be held at times when the sections for scientific work are not in session. Many men were kept from reading papers because they were conscientiously attending the House of Delegates. Others remained away from the House, because the sections were more interesting. If this is allowed to continue, the House will soon be attended by few others than the political wire-pullers who have at times dominated the affairs of the Association to its disadvantage. The House would do better to meet early in the morning or in the evening during the time devoted to entertainments than during the time assigned for section work. It is probable that one of the Vice-Presidents or a Chairman elected by itself should be selected to occupy the chair in most cases, so that the President might be free for social and scientific duties. The President of the Association is usually elected for scientific services rendered to the profession and the public, and is not necessarily a good parliamentarian. The House of Delegates should be empowered to select a man with a strong voice, a strong backbone and a knowledge of parliamentary law combined with absolute impartiality to preside over its deliberations. This would insure sessions beginning at the exact minute agreed upon and would dispatch business in a quick, just and efficient way. On the whole the House of Delegates was, and promises to continue to be, a success.—*Philadelphia Medical Journal.*

The Meeting of the American Medical Association at Saratoga this year may be considered a success. The registration was not so large as was expected, only reaching about 1400. This was doubtless due to the place of meeting, which, with all its charms and advantages, was nevertheless rather out of the way. This fact demonstrates the truth of what we have often contended for, that the best places for holding large medical conventions are the large medical centers. In these centers of active medical work the most representative men are to be found; the atmosphere is conducive to medical thought and activity, and the opportunities both for work and for enjoyment are great. We are therefore convinced that the final decision to hold the next meeting at New Orleans instead of Hot Springs was a wise one. New Orleans is the southern

metropolis, and if the meeting is held early in May, the climatic conditions will probably be most favorable. The selection of Dr. Frank Billings of Chicago for President meets with general approval. Dr. Billings is a representative medical man of the great Central West. He is, moreover, a physician, and as the Association has honored surgeons now for several years with its highest office, it was appropriate that it should turn this year to a representative of the other field of practice. The importance of the American Medical Association as a representative national body increases every year. This is as it should be. There are still some things, however, to be desired. We believe that the character of the scientific work can and should be still further improved. This is true of some of the sections more than of others. The work in these is hardly up to the standard of some of the special associations. It should be made to equal the work of these bodies in every particular. This responsibility rests especially on the officers of the several sections.—*Philadelphia Medical Journal.*

Book Notices.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the Use of Practitioners and Students. By Francis H. Williams, M.D. (Harv.), Graduate of the Massachusetts Institute of Technology. With 410 Illustrations. Second Edition. With Enlarged Appendix. Cloth. Pp. 704. Price, $6.00. New York: The Macmillan Co. 1902.

As the author states, the following pages are presented rather as a report of the progress and findings of this growing subject. The development of the Roentgen rays, therapeutic and diagnostic, has been one of the most striking features of the past seven or eight years, and their possibilities seem only to be beginning to be developed. To one, however, who wishes a general résumé of the subject, giving the principal, relative facts, as far as known, in detail, the present work will be a satisfactory one. To show how the literature of the subject grows, a rather extensive appendix of some 50 pages has had to be added. Instruction as to the methods of examination and the needs of the *x*-ray equipment are first given, and the illustrations are very useful in aiding the text. Following this is the use of the *x*-rays in the diagnosis of various disorders of the lungs, cases of new growth, etc., and the author next discusses their therapeutic value. The latter parts of the work are largely devoted to the discussion of diseases and fractures of the bones and joints and the application of the rays to military surgery, etc. The book is one that will probably hold its own for some time as a leading text-book on its subject.

THE PRINCIPLES OF BACTERIOLOGY: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth Edition. Enlarged and Thoroughly Revised. With 111 Illustrations, of Which 26 Are Colored. Cloth. Pp. 641. Price, $2.75. Philadelphia and New York: Lea Brothers & Co. 1902.

This work has now been before the American public for some years and the sixth edition is evidence of the favor with which it has been received. The present edition brings up the data nearly to the present time, reviewing the methods and discoveries that have originated within the three years since the appearance of the fifth edition. There are possibly some omissions, some of which, however, are what might be called discretionary in a work of this kind; thus, in noticing the leading pathogenic organisms, especially of the leading microbic diseases, no mention is made of the scarlatina coccus, which has probably been recognized alike by American and European authorities, though the more questionable bacillus of syphilis is noted. The present edition is nicely gotten up and will retain undoubtedly the good will of the medical profession that has been given to the former editions.

PRACTICAL DIETETICS, with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City. Second Edition, Enlarged and Thoroughly Revised. Cloth. Pp. 828. Price, $5.00. New York: D. Appleton & Co. 1902.

This volume is the second edition which has been brought out to meet the demands of an increasing interest in the subject. It has been revised throughout and in part rewritten and about 30 pages of new matter added. It will be found in the main a reliable exposition of its theme. The different views of the disputed questions are generally fairly stated. In regard to the much-discussed action of alcohol, Dr. Thompson's views are conservative and he follows closely the finding of Atwater and his conclusions. He does not mention, however, the fact that the use of very moderate doses of alcohol has a depressing effect on the performance of the work of the nervous system as shown by German investigators like Aschaffenburg, but simply says that it is a stimulant to the nervous system, quickening its action as a stimulant. This is hardly borne out by the experiments referred to, though it is in accord with superficial observation.

TOXICOLOGY. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College, St. Louis, Mo. Cloth. Pp. 121. Price, $1.25. Published by the Author. 1901.

The author has aimed to eliminate all useless matter and obsolete methods and to give the facts in regard to toxicology, independent of the legal aspects and chemical features of the subject. The work reviews the various poisons, their symptoms, fatal dose and treatment. In the main we find it reliable and reasonably complete. In some respects there might be a little more said: for instance, in regard to atropin poisoning, which is far less formidable than might be supposed from the physiologic effects of very small doses. No mention is made of the use of excitation or artificial respiration in the treatment, which certainly have been found very serviceable in some cases. There are probably other points where slight criticisms might be made, but the book is one that we hope will receive the deserved favor of the profession.

MINOR SURGERY AND BANDAGING, Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania. Fifth Edition, Enlarged and Thoroughly Revised, with 509 Illustrations. Cloth. Pp. 621. Price, $3.00. Philadelphia and New York: Lea Brothers & Co. 1902.

This is a much larger and more comprehensive work than that of Heath, covering as it does such operations as amputations even of the hip-joint and yet it is called minor surgery. That it has gone through five editions, however, shows it to be a work that has taken well and will probably continue to receive the favor it has in the past. A special chapter has been added on surgical bacteriology and short articles on tracheotomy, intubation of the larynx, ligation of the arteries and amputations. As the author states, these can hardly be classed among minor surgery, but will render the volume more serviceable to the student and they are a continuation of the policy adopted in the fourth edition. The book is well made and illustrated.

ATLAS AND EPITOME OF OTOLOGY. By Gustav Brühl, M.D., of Berlin, with the Collaboration of Professor Dr. A. Politzer, of Vienna. Edited, with Additions, by S. MacCuen Smith, M.D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 Colored Figures on 39 Lithographic Plates and 99 Text Illustrations. Pp. 292. Cloth, $3.00 net. Philadelphia: W. B. Saunders & Co. 1902.

This work is from the hands of a distinguished German author, and the translator has aimed to give an accurate but liberal impression of the author's ideas rather than to follow the German text too literally. Some little additions and omissions have been made, not, however, affecting the work as a whole, and, like the other works of this series, the illustrations are most elaborate and complete, and fill a useful place in our literature. These volumes, however, should always be supplemented, we think, by American works, as German authors do not as a rule refer to all that is done in this country that is of value. The practical character of the work is shown by the addition of a medical formulary.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By Dr. Otto Zuckerkandl, privatdocent in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited, with Additions, by J. Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Second Edition, Thoroughly Revised and Greatly Enlarged. With 40 Colored Plates and 278 Text Illustrations. Cloth, $3.50 net. Pp. 410. Philadelphia: W. B. Saunders & Co. 1902.

This atlas is, like that of Brühl, the American issue of a standard European work, translated liberally, but accurately, and with a few explanatory notes by the editor. The remarks made in the review of Brühl's Atlas of Otology are applicable here. The book is an excellent little manual of operative

surgery, authoritative in its way and most completely and beautifully illustrated.

A MANUAL OF MINOR SURGERY AND BANDAGING. For the Use of House Surgeons, Dressers and Junior Practitioners. By Christopher Heath, F.R.C.S., LL.D., Consulting Surgeon to University College Hospital and Emeritus Professor of Clinical Surgery in University College, London. Twelfth Edition. Revised by Bilton Pollard, F.R.C.S., Surgeon to University College Hospital. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co.

A book which has reached its twelfth edition needs no recommendation; it is evidently before the public in a favorable light. The present edition has been revised in some respects, and the chapter on anesthetics rewritten, though the subject is treated rather briefly. In the main the book will hold its own, as it has in the past, as a convenient little manual of minor surgical procedures.

A PHYSICIAN'S PRACTICAL GYNECOLOGY. By W. O. Henry, M.D. Omaha, Neb., Professor of Gynecology in the Creighton Medical College. With Five Full-page Illustrations and Sixty-one Illustrations in the Text. Cloth. Pp. 229. Price, $2.00. Lincoln, Neb.: The Review Press. 1902.

This work is intended by the author to present to the student the essentials of gynecology in a convenient, clear and concise manner and to give to the general practitioner a practical guide for the conditions which he will meet in his daily work. He, therefore, offers a rather condensed but tolerably clear and well illustrated statement of the general facts. It will be found a convenient ready reference book, though not a substitute for the larger works on the subject.

SANATORIA FOR CONSUMPTIVES. A Critical and Detailed Description, Together with an Exposition of the Open-Air Hygienic Treatment of Phthisis. By F. Ruffenacht Walters, M.D., M.R.C.P., Fellow of the Royal College of Surgeons. With an Introduction by Sir Richard Douglas Powell, Bart., M.D., F.R.C.P. Second Edition. Cloth. Pp. 446. Price, $5.00 net. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

This work, which has passed through its first edition within three years, gives a very fair, general résumé of the sanatorium care of the tuberculous in Europe and this country. So far as we can see, there are very few omissions of any important institutions made. It is nicely illustrated and the student of the subject will hardly find any other work its equal in the information that it gives.

THE PRACTITIONER'S MANUAL: A Condensed System of General Medical Diagnosis and Treatment. By Charles Warren Allen, M.D., Consulting Genito-Urinary Surgeon to the City (Charity) Hospital. Second Edition, Revised and Enlarged. Cloth. Pp. 889. Price, $6.00. New York: William Wood & Co. 1902.

The first edition of this book was apparently quickly exhausted and a second one is, therefore, offered, which is not materially changed from the original. A few formulæ and methods of treatment have been added and some few omitted, but the book on the whole is very little changed.

DISEASES OF WOMEN: A Manual of Gynecology Designed Especially for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. Fourth Edition, Revised and Enlarged, with 154 Illustrations. Cloth. Pp. 402. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1902.

This fourth edition is very little changed, having only been corrected, as the author states, to include the latest advances on the subject. It is still intended to be a manual for students and a handy book of reference for the general practitioner.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By Dr. R. Ultzmann, Professor of Genito-Urinary Diseases in the University of Vienna. Second Edition. Revised, with Notes and a Supplementary Article on Nervous Impotence, by the Translator, Gardner W. Allen, M.D., Surgeon in the Genito-Urinary Department of the Boston Dispensary: Illustrated. Pp. 198. 12mo. Price, Extra Cloth, $1.00 net. Delivered. Philadelphia: F. A. Davis Company. 1902.

These essays were published some time since, but are reproduced in a revised and somewhat modified form, with a supplementary article, treating of nervous impotence, by the translator.

HEALTH, SPEECH AND SONG. A Practical Guide to Voice-Production. By Jutta Bell-Ranske. Cloth. Pp. 158. Price, $1.25. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

This volume is evidently written by a music teacher rather than a physician, and yet she has drawn largely from medical sources for the facts which she communicates. We believe it would be of profit to the average singer to read the work and to the physician and throat specialist, who will find, in her point of view, much that will be of value.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By William D. Frost, M.S., Instructor in Bacteriology, University of Wisconsin. Illustrated. Second Revised Edition. Cloth. Pp. 355. Price, $1.50. Madison, Wis.: Published by the Author. 1902.

This is the second edition of a work which appeared for the first time only a little over a year ago. It has been enlarged, new illustrations added and the order somewhat changed, but in other respects it remains about the same as the former volume.

Married.

GEORGE ELLIOTT, M.D., to Miss Viola A. C. Cornelyn, both of Denver, Colo.

WARD E. POTTER, M.D., to Miss Ida B. Bradley, both of Chicago, June 19.

FRANK D. WILSON, M.D., to Mrs. Bertha Cyphers, both of Thayer, Ind., June 15.

HARVEY W. CUSHING, M.D., Baltimore, to Miss Crowell, at Cleveland, Ohio, June 10.

CHARLES D. AARON, M.D., to Miss Winifred Comstock, both of Detroit, Mich., June 23.

CHARLES P. KNOWLES, M.D., Olean, N. Y., to Miss Evelyn Sherman of Buffalo, June 17.

BERNA C. FRY, M.D., Jennings, La., to Miss Ivy Belle Eaken of Jeffersonville, Ind., June 25.

CHARLES L. BOYERS, M.D., Fairmont, W. Va., to Miss Naomi Riggs of Adlai, W. Va., June 24.

SAMUEL L. WEST, M.D., St. Clairsville, Ohio, to Miss Lulu M. Hunt of Waverly, Ohio, June 18.

EDWARD W. STEEVES, M.D., New Brunswick, Canada, to Miss Mary J. Crudden of Baltimore, June 26.

CHARLES FRANCIS JUDSON, M.D., Philadelphia, to Miss Sarah Ernst Worrall of Danville, Ky., June 23.

HERMAN K. DE GROAT, M.D., to Miss Jeannette Hunt Cunningham, both of Buffalo, N. Y., June 17.

FRANKLIN C. VANDERVORT, M.D., Bloomington, Ill., to Miss Olive Harrison of Cedar Rapids, Iowa, June 25.

LONZO O. ROSE, M.D., Hinton, W. Va., to Miss Catherine E. Wuestefeld, Walnut Hills, Cincinnati, Ohio, June 17.

EDWARD RANDOLPH MICHAUX, M.D., Greensboro, N. C., to Miss Cornelia Roberson of Guilford College, N. C., June 19.

C. HAMPSON JONES, M.D., assistant commissioner of health of Baltimore, to Miss Emma May White, of the same city, June 26.

FRED MURRAY, M.D., Sheldrake, Mich., to Miss Janette Stevenson of East Crystal Township, Tama County, Iowa, June 19.

Deaths and Obituaries.

George F. Carey, M.D. College of Physicians and Surgeons, New York, 1874, a specialist on diseases of the eye and ear, a member of the County Medical Society, and attached to the staffs of St. Francis and Foundling hospitals, and the Manhattan Eye and Ear Infirmary, died at his home in New York, June 17, after an operation for Bright's disease, aged 66.

Charles A. Carlton, M.D. Dartmouth Medical College, Hanover, N. H., 1868, the first medical examiner for Essex County, Mass., under the law of 1877, prominent and beloved as a physician, died at his home in Salem, June 13, after a long illness, aged 61.

James E. Dexter, M.D. New York University, 1861, a surgeon in the Union army during the Civil war, and sometime secretary of the Board of Health of the District of Columbia, died at his home in Washington, D. C., June 17, aged 80.

Robert J. Gunn, M.D. College of Physicians and Surgeons of Toronto, Ontario, 1866, L.R.C.P. Edinburgh, a resident of Whitby for more than half a century, and several times mayor of the town, died at his home, June 24, aged 88.

Isaac S. Eshleman, M.D. Jefferson Medical College, Philadelphia, 1851, a retired physician of Fresno, Cal., died suddenly at Oakland, Cal., June 13, aged 84. He was a member of the American Medical Association.

Abraham Z. Falcon, M.D. Ecole de Medicine et de Chirurgie, Montreal, Quebec, 1879, for many years in practice at Central Falls, R. I., died recently at the State Hospital for the Insane, Howard, R. I.

Frank B. Fisher, M.D. University Medical College, Kansas City, Mo., 1897, secretary of the Sangamon County Medical Society, died at his home in Springfield, Ill., June 22, after a short illness, aged 30.

William Cowan, M.D. University of Glasgow, Scotland, 1843, for many years physician and chief factor of the Hudson Bay Company at Fort Garry, Manitoba, died at his home in St. Paul, Minn., June 20.

Nicholas Nicholaivitch Dvorashin, the physician who rendered first assistance to the wounded Czar Alexander II, a man of brilliant talent, died in an insane asylum in St. Petersburg, Russia, June 6.

Albert Chase, M.D. Dartmouth Medical College, Hanover, N. H., 1847, a pioneer of Sierra County, Cal., died at the County Hospital, Downieville, Cal., June 1, from bronchitis, aged 84.

Robert P. Greenleaf, M.D. Pennsylvania Medical College, Philadelphia, 1855, died at his home near Greenhill, Wilmington, June 11, from general debility after a protracted illness, aged 72.

Jacob F. Meyer, M.D. Niagara University, 1891, a physician of acknowledged ability and of excellent standing, was mysteriously shot. June 27, in his office in Buffalo.

Sumter M. Devaga, M.D. Medical College of the State of South Carolina, Charleston, 1892, died at his home in Chester, S. C., June 17, after a prolonged illness, aged 41.

William Bristol Fenn, M.D. University of Pennsylvania, Philadelphia, died from consumption after an illness of several years, June 13, at Skaneateles, N. Y., aged 38.

Edward Richardson Bennett, M.D. Rush Medical College, Chicago, 1882, died, June 30, at his home in Chicago, a week after an operation for appendicitis, aged 41.

Charles Finley Neil Cooke, M.D. University Medical College, Kansas City, Mo., 1899, died at his home in Hastings, Neb., from spinal disease, June 18, aged 24.

John A. Boylan, M.D. University of Michigan, Ann Arbor, 1890, died at his home in Ann Arbor June 26, from consumption, after a long illness, aged 40.

Jesse Scott Cunningham, M.D. University of Pennsylvania, Philadelphia, 1847, a California pioneer, died at his home in Vacaville, Cal., June 1, aged 91.

William Milton George, M.D. Cincinnati College of Medicine and Surgery, 1869, died at his home in Cambridge, Ohio, June 22, from consumption.

J. N. Cheney, M.D. Medical College of Georgia, Augusta, 1857, a prominent citizen of Ellaville, Ga., died from Bright's disease in Atlanta, June 26.

Andrew A. Elliott, M.D. New York University, 1881, died at his home in Steubenville, Ohio, June 11, from angina pectoris, aged 48.

Charles G. Ernst, M.D. Bellevue Hospital Medical College, New York, 1884, died at the Punxsutawney Hospital, June 15, from uremia.

Joseph A. Gagnon, M.D. University of the Victoria College, Cobourg, Ont., 1884, died at his home in Lowell, Mass., June 19, aged 46.

Frank Brooks, M.D., surgeon of Post 10, G.A.R., died, June 14, at his home in Worcester, Mass.

Association News.

Papers on Epilepsy.

Dr. F. Savary Pearce, secretary of the Section on Nervous and Mental Diseases, calls attention to an error in the official minutes of that Section, whereby no mention was made of the paper on "Institutions for the Epileptic" by Dr. William P. Spratling. This was read fourth in the Symposium on Epilepsy.

New Members.

The following is a list of new members for the month of June:

ARIZONA.
Martin, Ancil, Phœnix.

CALIFORNIA.
Atkinson, F. L., Sacramento.
Coffey, T. J., Los Angeles.
Lumsden, L. L., San Francisco.
Cook, E. J., Los Angeles.

COLORADO.
Work, Herbert, Pueblo.

CONNECTICUT.
Newton, C. B., Stafford Springs.
Taylor, J. C., New London.
Davis, E. W., Seymour.
Carmalt, W. H., New Haven.

DISTRICT OF COLUMBIA.
Ruffin, Sterling, Washington.

FLORIDA.
Palmer, H. E., Tallahassee.
Wells, W. E., Tampa.

HAWAIIAN ISLANDS.
Wood, C. B., Honolulu.

ILLINOIS.
Rogers, C. C., Chicago.
Silverberg, G. M., Chicago.
Patera, F. J., Chicago.
Breakstone, B. H., Chicago.
Fischkin, E. A., Chicago.
Golden, I. J. K., Chicago.
Pratt, H. P., Chicago.
Cherry, T. E., Cowden.
Greeley, P. E., Waterman.
Sherwood, H. H., New Windsor.
Johnstone, M. M. S., Evanston.
Johnson, Col. Manfred, Harvard.
McCaughey, T. C., Hoopeston.

INDIANA.
Patton, W. H., Orleans.
Kamman, G. H., Seymour.
Nehrbas, J. G., Indianapolis.
Libbert, E. J., Aurora.

KANSAS.
Iliff, D. A., Kansas City.

MAINE.
Hutchinson, Chas., Portland.
Kimball, I. E., Portland.
Hunt, W. L., Bangor.
Dixon, F. L., Lewiston.
Morse, F. W., Canton.
Williams, C. E., Auburn.

MASSACHUSETTS.
Chapin, C. S., Gt. Barrington.
Noyes, H. A., Pittsfield.
Hale, W. L., Attleboro Falls.
Broun, D. J., Springfield.
Hapgood, L. S., Cambridge.
Lambert, F. DeF., Salem.
Tenney, Benj., Boston.
Emerson, H. C., Springfield.
Dale, Mary P., Greenfield.
Greenwood, Allen, Waltham.
Fay, J. M., Northampton.
Jackson, R. W., Fall River.
Morris, J. G., South Boston.
Shultis, F. C., Harding.
Weis, J. D., Boston.

MICHIGAN.
Mullett, J. H. F., Pontiac.
Ramsdell, J. L., Albion.
Towar, C. G., Detroit.
Black, J. C., Milford.

MISSOURI.
Green, H. A., St. Joseph.
Lightner, C. R., St. Louis.

NEW HAMPSHIRE.
Hale, Wm., Rollinsford.
Sanders, H. C., Jr., Claremont.
Hills, F. L., Concord.
Kingsford, H. N., Hanover.
Fontaine, H. T., Concord.

NEW JERSEY.
Bogardus, H. J., Jersey City.
Bowden, D. T., Paterson.
Ryan, J. N., Passaic.
Stellwagen, F. B., Union Hill.
Gallaway, G. E., Rahway.
Felty, J. C., Trenton.
Beveridge, W. W., Asbury Park.
Lund, J. L., Perth Amboy.
Davis, W. H. K., East Orange.

NEW YORK.
LaBell, M. J., Lewis.
Lewis, F. P., Buffalo.
Koyle, F. H., Hornellsville.
Saxe, G. A., New York City.
Helbig, F. M., New York City.
Quackenbush, W. K., Trenton.
Jones, S. C., Rochester.
Fossume, F. L., New York City.
Goldsmith, S. L., New York City.
Huggins, W. Q., Sanborn.
DeLaney, J. P., Geneva.
June, F. L., Waterport.
Downs, A. S., Saratoga.
Allen, J. B., Syracuse.
Snow, S. F., Syracuse.
White, H. D., Hopewell Junction.
Cooke, J. B., New York City.
Jack, H. P., Canisteo.
Bull, C. S., New York City.

NORTH CAROLINA.
Russell, F. H., Wilmington.
Harrell, L., Statesville.
Hines, P. E., Raleigh.
Newbern, J. M., Powell's Point.
Jordan, C. S., Asheville.
Slaton, L. L., Tarboro.
Harriss, A. H., Wilmington.

NORTH DAKOTA.
McCannel, A. J., Lakota.

OHIO.
DeNeen, D. D., Oxford.
McKenzie, C. D., Sabina.
Green, M. D., Cincinnati.
Phillips, M. O., Fremont.
Rodebaugh, H. A., Columbus.
Williams, D. R., Girard.

OKLAHOMA.
Reese, H. A., Stillwater.

OREGON.
Dutro, E. O., Bridal Veil.

PENNSYLVANIA.
Reyea, H. D., Philadelphia.
Neale, J. B., Reynoldsville.
Leof, M. V., Philadelphia.

RHODE ISLAND.
Keefe, J. W., Providence.
Churchill, D., Providence.

SOUTH CAROLINA.
Mullally, Lane, Charleston.

SOUTH DAKOTA.
Gerdes, O. H., Eureka.
Ramsey, E. T., Clark.

TEXAS.
Hansen, J. H., Vernon.

UTAH.
Miles, L. P., Salt Lake City.
Benedict, C. M., Salt Lake City.

VERMONT.
Martin, E. H., Middlebury.
Lawrence, W. E., Worcester.
O'Connor, F. H., Bellows Falls.
Chandler, M. L., Barre.
Marshall, G. G., Wallingford.
Platt, W. N., Shoreham.
Osgood, F. L., Saxton's River.
Phillips, W. S., Arlington.

VIRGINIA.
Taylor, Philip, Richmond.
Kelly, J. W., Big Stone Gap.
Garrett, J. R., Roanoke.
Anderson, W. E., Farmville.
Corter, G. H., Boydton.
Wiley, G. E., Saltville.
Rodgers, C. W., Staunton.
Tompkins, G. W., Georgel.

WASHINGTON.
Rynning, J. L., Tacoma.

WEST VIRGINIA.
Schwinn, Jacob, Wheeling.
Rymer, W. A., Glenville.
Birtwell, D. T., Clarksburg.
Fravel, E. H., Poca.

WISCONSIN.
Tasche, C. T., Howard.
McCabe, W. F., Beloit.

CORRECTION.
Lavery, Charles J., Ft. Pierre, S. D. (published as C. J. Savery).

Societies.

Lyon County (Iowa) Medical Association.—The physicians of Lyon County met at the office of Dr. Gilbert G. Cottam, Rock Rapids, May 19, and formed a temporary organization, with Dr. Alexander Macnab, Rock Rapids, as chairman.

Gage County (Neb.) Medical Society.—A meeting of the physicians of the county was held in Beatrice, May 27, and an organization was effected. Dr. Henry A. Given, Wymore, was chosen as chairman, and Dr. Robert S. Albright, Beatrice, as secretary of the meeting.

Moore County (N. C.) Medical Society.—This Society held its annual meeting at Sanford, N. C., May 1, and re-elected

Dr. M. Eugene Street, Glendon, president; Dr. William P. Swett, Southern Pines, vice-president, and Dr. Lynn McIver, Sanford, secretary and treasurer.

Kennebec County (Maine) Medical Association.—At the annual meeting of this body, held at Augusta, May 23, Dr. Frederick E. Strout, Gardiner, was elected president; Dr. Oliver W. Turner, Augusta, vice-president, and Dr. Wellington Johnson, Augusta, secretary and treasurer.

Maine Medical Association.—The fifth annual meeting of this Association was held in Portland, June 4 and 5. Dr. Charles D. Smith, Portland, recommended the adoption of a resolution previously adopted by various medical associations throughout the country to establish in the Department of the Interior at Washington, a laboratory for the study of criminal paupers and defective classes with special reference to the causes of social evil with a view to ameliorate or prevent them. The resolution was passed. The president, Dr. Frederick H. Gerrish, in his annual address, called attention to the fact that next year marks a half century of the Association's life and recommended that the next meeting be characterized by special observance. He recommended that a committee be appointed by the board of censors to arrange for a suitable observance and suggested that the meeting be as distinctive as possible. He advised historical sketches, reports of unusual cases, representation by eminent members of other societies and a suitable poem. He advised against a reorganization of this Association as requested by the American Medical Association, spoke strongly in favor of establishing a sanatorium for the treatment of tuberculosis and recommended that a sum of money be voted from the treasury of the Association to aid the cause. He mentioned several defects in the restriction of the insane under the present laws, and recommended that a committee be appointed to investigate the subject and present suggestions to the legislature. Attention was called to the urgent need of a State pathologic laboratory for the Board of Health. He showed the necessity of legislation in behalf of those enslaved by drugs and recommended that a committee be appointed to seek appropriate legislation which shall reconcile the conflicting interests of physician and patient. He also recommended that a committee be appointed to report at the next meeting on the expediency of seeking legislation which shall add syphilis and gonorrhea to the list of diseases required to be reported to boards of health, shall provide free hospital treatment for persons afflicted with either of these diseases, and shall restrict the marriage of such persons. The following officers were elected: President, Dr. Hiram Hunt, Greenville; vice-presidents, Drs. Walter E. Elwell, Togus, and Walter M. Spear, Rockland; recording secretary, Dr. Walter E. Tobie, Portland, and corresponding secretary, Dr. Albert L. Stanwood, Rumford Falls. The annual oration was delivered by Dr. James R. Chadwick, Boston, Mass., on the subject "Medical Libraries."

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Eleventh Annual Meeting, held in Washington, D. C., June 5 to 7, 1902.

The President, Lieutenant-Colonel John Van R. Hoff, deputy surgeon-general, U. S. Army, in the Chair.

Opening Session.

The meeting was formally opened with an address by President Roosevelt, who congratulated the association on the work done, and closed with the following words of warning: "Pay all possible heed to the scientific side of your work; perfect yourselves as scientific men able to work with the best and most delicate apparatus, and never for one moment forget—especially the higher officers among you—that in time of need you will have to do your work with the scantiest possible apparatus; and that then your usefulness will be proportioned not upon the adequacy of the complaint that you did not have apparatus enough, but upon the way you have done with what you had. Remember that, and remember also—and this especially applies to the higher officers—that you have got to supplement in your calling the work of the surgeon with the work of the administrator. You have got to be doctors and military men and able administrators."

COMMISSIONER H. B. F. MACFARLAND welcomed the association on behalf of the citizens of the District of Columbia, and Dr. Samuel S. Adams on behalf of the Medical Society of the District of Columbia.

President's Address.

The president of the association then delivered the annual address on "The Broader Mission of Our Association," in which he reviewed the history of the association. He emphasized the necessity of a medical school in which men and women may be educated who are to become workers in the public medical services. He urged that cadets should be appointed to this school as they are appointed to West Point and Annapolis, and declared that in such a school, conducted in connection with a great military hospital, enlisted men could be efficiently trained for the hospital corps. Colonel Hoff said that Washington was the ideal location for such a school and hospital, and declared that it is the duty of the association to do all in its power to bring about the establishment of such an institution.

Foreign Delegates.

The foreign delegates included Lt.-Col. Richard Exham, R.A.M.C., England; Col. J. L. Hubert Neilson, director general of the Medical Service, Canada; Col. H. Nimier, chief surgeon of the first class and professor in the Military Medical School, Val de Grace, France; Drs. K. Tamura, surgeon imperial army, and Kimura, imperial navy, Japan; Lieut.-Col. Zacarias R. Molina, C.M.-M.M., Mexico, and Dr. Eurico Castelli, Italy.

Enno Sander Prize.

At the business session it was announced that the Enno Sander prize of $100 and a gold medal of the same value had been awarded to Lieutenant-Colonel Valery Havard, deputy surgeon-general, U. S. Army, for his thesis on "The Most Practical Organization for the Medical Department of the United States Army," an abstract of which will appear in THE JOURNAL. The essay of Capt. F. P. Reynolds, assistant surgeon, U. S. Army, was given honorable mention.

The Recruit.

LIEUTENANT S. C. STANTON, assistant surgeon, I. N. G., presented a paper at the evening session on "The Recruit," in which he laid special stress on the danger of the enlistment of young men, especially for tropical service. The experience of army surgeons of all countries and in all times has been that soldiers of mature age are much less susceptible to disease, and more capable of bearing the hardships of the army than younger men. In conclusion the author submitted a proposed blank for the physical examination of recruits for the National Guard, and recommended its adoption as a standard for the various national guards and state troops of the United States.

The Military Surgeon as an Executive Officer.

DR. JOHN N. GOLTRA, acting assistant surgeon, U. S. A., read an able paper on "The Executive Element in the Training and Skill of a Military Surgeon," in which he urged that army surgeons should apply system to their work and suggested that it would be well for them to study the methods of the great department stores and other enterprises in which enormous amounts of goods are received and distributed without the least confusion, and that they should apply these rules in their administrative work in the Army.

Resolutions.

Resolutions were adopted recommending the establishment of a school for the training of medical military officers, and the passage of the Dick bill, reorganizing the National Guard of the different states.

Incorporation.

At the business meeting of the association, June 6, the advisability of incorporating the association was discussed, and a committee of three was appointed to confer with the judicial committees of Congress as to the best method of procedure toward this end.

Experiences in South Africa.

COLONEL RICHARD EXHAM, surgeon, R.A.M.C., presented a notable report on "Experiences in South Africa." Colonel Exham served through the Boer war, and was in Ladysmith throughout the siege as chief medical officer. He gave a careful analysis

of the British Hospital corps, and told of the practical workings of the organization in the field.

Canadian Medical Department.

LIEUT-COL. J. L. HUBERT NIELSON, director-general of the Medical Service of Canada, addressed the association on "The Organization of the Canadian Medical Department," explained the practical workings of certain devices used exclusively in that service, and discussed at considerable length the best method of supplying the army hospitals with pure water.

Fevers at Chickamauga.

MAJOR EDWARD CHAMPE CARTER, surgeon, U. S. Army, presented a paper on "Typhoid and Malarial Fevers at Chickamauga," the conclusions of which will appear in a subsequent issue of THE JOURNAL.

Japanese Military Medical Investigations.

DR. K. TAMURA, surgeon imperial Japanese army, read an interesting paper on "Original Medical Investigation of the Surgeons of the Imperial Japanese Army," an abstract of which will appear subsequently in THE JOURNAL.

Treatment of Yellow Fever.

DR. JAMES CARROLL, acting assistant surgeon, U. S. Army, read an interesting paper on this subject, which will appear in full in an early issue of THE JOURNAL.

Election of Officers.

The Nominating Committee made its report, the adoption of which elected the following officers: President, General Robert A. Blood, surgeon-general of Massachusetts; vice-presidents, Captain J. C. Wise, medical director, U. S. Navy, and Walter Wyman, surgeon-general, U. S. Marine-Hospital Service; secretary, Major James Evelyn Pilcher, U. S. A. (retired), and treasurer, Lieutenant Herbert A. Arnold, assistant surgeon, N. G. Pennsylvania. Boston was approved as the place of the next meeting.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held May 15, 1902.

President, Dr. A. M. Eaton, in the Chair.

Paper on Phthisis.

DR. J. CARDEEN COOPER read a paper entitled "Acute and Chronic Tubercular Phthisis, with Cases." The author first noticed the question of the communicability of consumption, holding that it is both hereditary and inoculable, though the transmission by inoculation is not a very fruitful source of tuberculosis, the chief mode of propagation being by way of inhalation and infection by ingested food. He divided his paper into two sections. The first was acute phthisis characterized by high fever, commencing with chills, consolidation over a considerable portion of lung tissue and the symptoms largely those characteristic of pneumonia but without the crisis. Expectoration shows the tubercle bacilli. The patient rapidly loses strength and weight, lung tissue breaks down and the case terminated fatally in from eight to ten weeks. In some cases, however, long crises, reaching for months, may occur, the general symptoms moderate and the patient become a chronic case. Three cases are detailed. The second division of his paper deals with chronic phthisis, often developing insidiously and generally associated with a diathesis or hereditary sensitiveness in this direction. The tubercle bacillus, of course, is the essential infection, but poor ventilation, unhealthy occupations, confinement, ill-health, etc., all aid in its origin and development. It commences usually with a slight dry cough, with gradually-appearing slight expectoration, containing tubercle bacilli and elastic fibers, hemoptysis may occur and there is usually fever, at first intermittent, but becoming remittent. The case passes on to the extensive lung disorganization, the formation of cavities, the gradual wasting and the patient succumbs after a period, may be of years. In some cases, however, under favorable conditions, the organism overcomes the disease and the patient recovers. Cases are also reported of this type.

DISCUSSION.

DR. HOWARD S. ANDERS stated that, while he did not believe that drugs should be considered as the foremost agents in the treatment of tuberculosis, he felt that there were many cases in which they were of distinct advantage, either as a palliative, or to increase the power of resistance. As a remedy of the latter class, the oils were thought to hold the first position, and in the opinion of the speaker, olive oil is superior to either cod-liver oil or the animal fats, such as butter and cream, being more easily digested and giving quite as good results. Reference was made to the experiments of Dr. Harper of England with the urea treatment, which is administered in doses of from 15 to 20 grains three or four times a day, and it was stated that in the incipient stages of the disease, where the condition was uncomplicated by mixed infection, the results had been exceedingly favorable, but where mixed infection had taken place, the outcome was no more favorable than with the ordinary treatment. Ichthyol and other similar remedies were, in his opinion, of no especial value. For the relief of hemoptysis, the internal use of gelatin was recommended as favoring the increased coagulability of the blood.

DR. LAWRENCE F. FLICK believed climate in its literal sense was of very little value. Out of door life and forced feeding, such foods as beefsteak, milk and eggs being employed, were thought to be the principal factors in the treatment and, with the observance of these directions, the opinion was expressed that 100 per cent. of the cases could be cured, provided the disease was diagnosed before it reached the softening process. Even if the later stages have been reached, it was thought 75 per cent. of the cases would recover. In cases where there is an increase in the temperature and pulse rate, absolute rest and where the temperature is about normal, partial rest and regulated exercises were recommended. The speaker believes that in all cases of tuberculosis there has existed a time when there was but a small dose of the disease in the system, and that the so-called acute cases, or galloping consumption, have, no doubt, been an infection of long standing, but unrecognized. The belief was also expressed that perhaps 50 per cent. of the cases in which the germs have been implanted recover without treatment.

DR. LOUIS JURIST stated that, in his experience, heroin had produced practically all of the symptoms of the morphia habit. Discipline, or the precise following of directions as given by the physician, was thought to be the most important factor in the treatment and, if this can be obtained, just as good results could be obtained here as in any other climate.

DR. S. SOLIS COHEN stated that he believed the most important factors in the treatment of tuberculosis were air, water, food, sunlight, rest and exercise, although drugs were considered of great value as an adjunct to these measures. As so many patients are unable to avail themselves of the benefits of climate, we should endeavor to as nearly as possible simulate these conditions at home, by keeping the patient in the open air, etc. The use of the cold plunge-bath in the morning was recommended, and while in some cases this may be taken immediately upon rising in the morning, in the majority of cases it was thought better to first warm the surface of the body by an application of hot water, in order to avoid a material reduction in the temperature. For the reduction of abnormal temperature, the application of the cold water coil or ice-bag over the precardial area was recommended. The internal use of water as a means of increasing the eliminative functions of the body was favorably commented upon. Regarding food, reference was made to the meat diet recommended by Salisbury, which consisted in lean meat chopped fine, with the fibrous portion removed, the patient being recommended to eat this raw, and if this could not be done, then in the form of lightly browned Hamburger steak. The value of this treatment has been emphasized by the more recent reports of the muscle plasma treatment and of the urea treatment of Harper of England. The food should be as much as possible of a nitrogenous character, while the consumption of starches should be reduced to the lowest margin. The administration of large quantities of fat is one of the most important factors in the

treatment of tuberculosis, and cod-liver oil, as well as milk and cream, were thought to be the preferable means of taking it. The judicious use of rest and exercise according to the condition of the patient was commented upon and horseback riding and walking were recommended, as were also breathing exercises.

DR. H. BROOKER MILLS stated that he thought that many of the cases who had gone to other climates and returned apparently no better had received great benefit from their sojourn, and that their after improvement depended to a great degree upon the effect of these climatic measures. In support of the value of climatic treatment he cited several cases, among them that of a child who manifested no symptoms of the disease while residing in Denver but a few months after coming to Philadelphia developed symptoms of phthisis, the symptoms being ameliorated upon going to Atlantic City or the White Mountains, but immediately becoming prominent on her return to Philadelphia.

DR. J. CARDEEN COOPER, in closing the discussion, stated that he felt a great deal depended upon the climatic conditions, and that in the term climate could be included not only the change from one latitude or altitude to another, but the change from the city to the country. He stated that he did not believe the urea treatment was of much value, and in his opinion cod-liver oil is the most favorable way of administering fat. As a diagnostic factor, attention was directed to the importance of carefully noting the nature of the chest expansion, the percussion note and the pitch of the resonance note.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting of Section on Pediatrics, May 8, 1902.

Dr. R. G. Freeman in the Chair.

A Case of Acute Leukemia.

DR. SARA WELT-KAKELS reported this case, in a child of eighteen months, first seen by her four days before death. The mother had first noticed the little one's pallor only about a month before. In addition to the very marked pallor, examination revealed numerous purpuric spots on the body and extremities, bleeding gums and enlargement of the lymph nodes in the cervical, axillary and inguinal regions. The rectal temperature was 101 F. The spleen extended 1½ inches below the free border of the ribs. Examination of the blood showed the enormous number of 682,000 leucocytes to the cubic millimeter and 94 per cent. of leucocytes, the large majority of which were of the small variety. The child was in coma, probably from hemorrhage into the brain.

Etiology and Prophylaxis of Infantile Summer Diarrhea.

DR. HENRY HEIMAN presented this paper. He pointed out the essentially bacterial nature of this disorder and the fact that the term "summer diarrhea" was a misnomer. He preferred to classify these diarrheas as infectious and non-infectious, subdividing the first variety into inflammatory and non-inflammatory. As hot and humid weather was favorable to intestinal putrefaction, such meterologic condition strongly disposed to the development of these diarrheas. A good prophylactic during hot weather was to reduce the quantity of food, substituting boiled water and a cereal for part of the proteids and fat. Of course, better housing of the poor and an increased number of breathing spaces in our large cities were also important preventive measures, though extending beyond the domain of the physician.

Renal Complications of Infantile Summer Diarrhea.

DR. J. LOVETT MORSE of Boston said that the alterations in the kidneys were different from those in both children and adults under other circumstances. It was probable that other factors than the bacteria played a part in the etiology. The urine was usually diminished in quantity, contained a small quantity of albumin and an excess of uric acid or its salts. He had not been able to discover any relation between the albuminuria and the symptoms. These renal complications were usually so mild as to have no influence on the prognosis and the treatment consisted in relieving the irritation of the kidneys and trying to remove the primary disease.

Treatment of Infantile Summer Diarrhea.

DR. CHARLES G. KERLEY was the author of this paper. He said that the physician should realize at the outset that he had to deal with a poisoned child. Every case, without regard to its severity, should receive an initial purge of calomel or castor oil, the latter being preferred. No matter how excellent the quality of the milk, this article must be completely stopped at once and a carbohydrate diet substituted. As children soon tired of this, it was well to change the taste by adding very sparingly some beef juice or chicken broth, well salted. He had tried egg-albumin water and had come to discard it because of the difficulty experienced by some of these sick children in digesting it. The substitute carbohydrate diet should be given every two hours and in the same quantity as the milk had been previously given. Boiled water should be allowed freely. Many physicians were accustomed to use brandy and whisky in these cases quite freely, but he was convinced that this was a mistake, as it tended to still further weaken the already enfeebled digestive powers, and also irritated the kidneys. A milk diet should not be resumed until the fever had gone and the stools had become normal, and even then the return to milk should be made very gradually and cautiously. Drug medication was of secondary importance, but he found the subnitrate of bismuth useful when given in doses of ten or twenty grains every hour or two, or in sufficient quantity to blacken the stools. Opium should never be given unless there were more than four or five stools a day, and then it was best to use one-quarter or one-half grain of Dover's powder every three or four hours in the case of a child one year old. Where it was necessary to stimulate the heart he preferred to use strychnin and strophanthus. Colonic irrigations were only useful when the stools contained much blood and mucus, and then not more than two should be given in the twenty-four hours. The fluid used should be normal saline solution, and it should be placed in a reservoir not over three feet above the child's body and should be introduced into the bowel through a rubber rectal tube corresponding in size to No. 17 of the American scale. Ordinarily the salt solution should be lukewarm, but if there was much fever a temperature of 70 F. would be beneficial, and similarly, if the child were on the verge of collapse, the saline solution should have a temperature of about 110 F.

DR. WILLIAM L. STOWELL said that he had never found it necessary to pay special attention to the renal complications of infantile summer diarrhea. His dispensary records showed plainly that summer diarrhea was on the decrease, and that the cases were of a milder type, probably because the masses were better informed at the present time regarding the care and feeding of infants. He had been in the habit of administering some intestinal antiseptic, such as salol, by the mouth, and washing out the bowel with salt solution, grading the temperature of the solution to the constitutional effect it was desired to produce. He was not enthusiastic over the medicinal treatment of this disorder.

DR. B. VAN DOREN HEDGES of Plainfield, N. J., said that the too common custom of stuffing children with an inordinate quantity of food, by causing chronic over-distention, predisposed to these disorders. He was always chary about giving opium to young infants, and if the number of the stools were reduced by this medication without any corresponding improvement in their character one might rest assured that the treatment was harmful.

DR. WALTER LESTER CARR said he had been surprised at the small quantity of albumin in the urine of children suffering from diarrhea, and this, together with the general lack of well-defined symptoms pointing to renal complications, explained why so many of these cases were entirely overlooked. He had practically abandoned the use of all so-called intestinal antiseptics.

DR. E. LIBMAN said he could not recall having seen a typical acute nephritis in connection with infantile diarrhea; there was usually only a parenchymatous degeneration of the kidneys. The diarrhea tended to eliminate some of the toxins, and it was perhaps because by the older methods of treatment by

opiates and astringents that kidney affection was more frequently noted. He thought an effort should be made to classify these summer diarrheas more scientifically.

DR. J. FINLEY BELL, Englewood, N. J., described an interesting epidemic of infantile diarrhea, of virulent form, that he had observed in the summer at Easthampton, L. I. It was not only characterized by a high mortality, but by a remarkable tendency to relapse on returning to milk diet. This had led to an inspection of the cows supplying the milk, with the result that they were found to have on the udder the lesions of cowpox. Cultures from the pustules showed staphylococci and streptococci. The epidemic almost immediately ceased on quarantining the cows and securing milk from a healthy herd.

DR. W. L. BAXER indorsed the treatment laid down by Dr. Kerley, but preferred to use instead of bismuth the sulphate of sodium in doses of fifteen grains every three or four hours to a child of one year.

DR. JAMES J. WALSH said that on very hot days much sickness could be prevented by bathing children frequently, or allowing them to play around in the bath for a long time.

DR. R. G. FREEMAN said that the physicians of the New York Foundling Hospital had recently tried with a good deal of satisfaction a combination of bismuth with two or three drops of castor oil.

DR. MORSE suggested classifying infantile summer diarrheas as follows: 1. A class in which there was merely increased peristalsis, or simple diarrhea; 2, a class in which there were organic changes; and 3, a class in which there might or might not be organic changes. The last class included by far the largest number of cases. He would only give opium where there was an undue increase of peristalsis, and would often combine it with an astringent such as tannigen or tannalbin. He felt that irrigation of the bowel had been overdone, and that this procedure was applicable to a very small number of cases.

AMERICAN PROCTOLOGIC SOCIETY.

Fourth Annual Meeting, held in Saratoga Springs, N. Y., June 10, 1902.

The President, Dr. Thomas Charles Martin, Cleveland, Ohio, in the Chair.

President's Address.

DR. THOMAS CHARLES MARTIN, Cleveland, spoke on "The Relation of the Rectal Valve to Obstipation; a Clinical Research." Of the 40 cases operated on prior to two years ago, 2 were not improved, 1 of these had no discoverable complications, the other was subject to recurrent invagination of the sigmoid to the rectum; 5 patients were improved, 3 of these had complications, 1 having gonorrheal peritonitis and malignant disease of the cervix uteri. Another had been subjected twice to laparotomy and had Meckel's diverticulum removed and oöphorectomy performed, and the third had movable right kidney and an ovarian tumor. Of the 6 patients who suffered recurrence of obstipation 3 were those whose condition after operation had been only improved; of the remaining 3 recurrences, 1 had been subjected to hysterectomy. In a total of 40 cases 5 patients were improved and 33 cured.

Prominent among the papers were the following:

Dietary in the Treatment of Rectal Diseases.

DR. A. P. BUCHMAN, Fort Wayne, Ind., considered morbid conditions that are attributable to an irregular and imperfect diet. He regarded the intestinal tract as a single organ and pointed out the difference between digestion and fermentation. After reports of illustrative cases, he concludes that if the dietary care of patients were prescribed with the same accuracy and care that is carried out along drug and surgical lines, the value of the method would not be the subject of as much neglect as it is at the present time and surgical procedures would be reduced in frequency.

Diagnosis and Treatment of Proctitis.

DR. HOWARD A. KELLY, Baltimore, believes the special importance of this subject lies in the fact that the affection is for the most part unrecognized and so allowed to run a chronic course. The local symptoms are often vague, and in women give rise to a disease of the uterus or ovaries. Some of its symptoms are decidedly serious in character, such as the poisonous character of the mucous secretion of the bowel. When associated with other pelvic diseases it is apt to be overlooked. The cause is generally obscure. The better recognition of these affections hinges on the diagnosis. If such a patient is examined by the vagina, the empty rectum feels like a flattened fibrillated cord easily rolled from side to side. He then gave the details of pathology and indicated the topical, dietary, drug treatment and massage recommended.

Causes and Treatment of Rectal Abscess.

DR. WILLIAM M. BEACH, Pittsburg, Pa., said that the location of an abscess is usually definite and circumscribed about the rectum by the limits of the pelvic fascia and integument. There are the marginal and deep-seated varieties. The ischio-rectal variety is one of the latter. Trauma, mechanical, chemical, thermic, secondary processes, bacteriologic, such as gonorrhea, syphilis, tubercular, bacillus coli communis, zymotic diseases and idiopathic, seem to be the exciting causes which vary according to the location of the pus areas. As soon as pus is determined it should be freely evacuated. He advises intestinal antiseptics and the application of cold. Poultices should never be employed.

Election of Officers.

The following officers were elected to serve the ensuing year: President, Dr. Samuel T. Earle, Baltimore; vice-president, Dr. Floyd W. McRae, Atlanta, Ga.; secretary and treasurer, Dr. William M. Beach, Pittsburg, Pa., and executive council, Drs. George J. Cook, Indianapolis; Lewis H. Adler, Philadelphia, and Thomas Charles Martin, Cleveland.

BUFFALO ACADEMY OF MEDICINE.

Annual Meeting, held June 17, 1902.

The President, Dr. Charles G. Stockton, in the Chair.

Reports of Secretaries.

The reports of the secretaries of the five sections were read and showed a good average attendance and excellence of papers presented.

Election of Officers.

The election of officers resulted as follows: President, Dr. Herman Hayd; secretary, Dr. Francis McGuire; treasurer, Dr. Charles S. Jewett, and trustee for three years, Dr. Stephen Y. Howell.

Gastrostomy.

DRS. HERMAN MYNTER and JULIUS ULLMAN presented an interesting case of gastrostomy for malignant disease of the cardia and esophagus. The patient, a male, aged 54, came under the observation of Dr. Ullman, having decreased in weight from 255 to 123 pounds. He was much emaciated, had dysphagia, regurgitation, the deglutition sound was absent and the esophageal bougie could not be passed into the stomach. Gastrostomy was performed, from which the patient recovered, and now, eight weeks after the operation, although the growth is extensive and has metastases, the patient has gained eight pounds and is able to feed himself through the fistula and attend to his business.

President's Address.

DR. CHARLES G. STOCKTON, the retiring president, delivered the annual address, in which he hoped that the membership would be increased so that the academy might some time in the near future be able to meet in its own home. The address was on "The Nature of Gangrenous Pancreatitis," in which, among other cases observed by the author and cited from the literature, was that of President McKinley. In referring to this case he detailed the nature and anatomic location of the wounds and the effect of the pancreatic necrosis on the fatal termination. He reviewed the clinical features, the persistent frequency of pulse and absence of healing of wound, the presence of a trace of albumin, increased sulphates and indicanuria in urine, the absence of leucocytosis, the dressing of wound on the third and fifth days, the sudden depression on the seventh day, then col-

lapse and death on the ninth day. He then reviewed the post-mortem findings—the absence of sepsis and peritonitis and the necrosis of the pancreas, the absence of fat necrosis and the presence of fibrin. In reviewing his own and collected cases he showed that some may occur immediately following trauma in which not only the pancreas but other tissues, nervous, muscular, become necrotic and that the toxic substance may be carried to distal portions of the body and then produce necrosis by some hemolytic poison. Other cases may follow months after a trauma. Some of the cases referred to and one reported by him followed cholelithiasis and cholecystitis. In some cases the necrosis was localized, whereas in others it was general, the entire pancreas becoming sequestered and by ulceration emptying into the intestinal tract, to be expelled by the rectum.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Albany, N. Y., June 3, 4 and 5, 1902.

(Concluded from page 41.)

The President, Dr. De Forest Willard, Philadelphia, in the Chair.

Teaching of Surgery.

DR. JOSEPH D. BRYANT, New York, read a paper entitled "The Teaching of Surgery, with Special Reference to the Didactic Method," and gave the following classification which he has used for some years in teaching surgery: 1, definition; 2, anatomy—embryologic, histologic, general, regional, surgical; 3, pathology—gross, microscopic; 4, classification; 5, causation; 6, symptoms; 7, diagnosis; 8, complications; 9, treatment; 10, prognosis, and 11, sequels. He summed up his paper with the following conclusions:

1. A thorough didactic foundation is absolutely necessary for the proper attainment of surgical knowledge.

2. Clinical teaching fits the student for the intelligent use of didactic facts.

3. Didactic teaching with limited clinical opportunity begets ponderous theorizing with a minimum of fertile practicability.

4. Clinical teaching with limited didactic opportunity begets much of unreasoning imitation with limited logical deduction.

DR. HERBERT L. BURRELL, Boston, read a paper entitled "The Teaching of Surgery," considering the subject under the following heads: 1, didactic lectures; 2, recitations; 3, surgical anatomy; 4, surgical physiology; 5, surgical pathology; 6, surgical technic; 7, physical diagnosis; 8, demonstrations material to (*a*) large classes, (*b*) sections, (*c*) ward visits; 9, (*a*) conferences, (*b*) reports of cases, (*c*) surgical tutors; 10, diagnosis clinics; 11, out-patient and bedside work; 12, case teaching; 13, operative surgery, (*a*) cadaver, (*b*) animals; 14, original work; 15, hospitals; 16, dispensaries; 17, organization and 18, association and coöperation of departments.

In the author's opinion the things which are required and which should be given to pupils in surgery are:

1. The minimum required fundamental knowledge.

2. The maximum opportunity to acquire knowledge by personal contact with cases.

3. Atmosphere and enthusiasm—which mean environment and men.

American surgery stands to-day sorely in need of men who are equipped and fitted by scientific methods to advance surgery. Students should be taught along scientific lines by instructors who are competently equipped. When this defect in the lack of scientific training is remedied, then American surgery can challenge the world, for to-day its care of the individual, its asepsis and operative technic are not excelled.

Modern Hospital Construction.

There was an inspection of the Albany Hospital at which a paper was read by Dr. A. Vander Veer, Albany, on "The Essentials of Modern Hospital Construction," which was followed by five-minute talks by Drs. Samuel D. Ward, W. G. McDonald, J. M. Mosher, George Blumer, B. H. Richardson, Arthur W. Elting and Herbert D. Pease, on ward work, private room work, laboratory work, keeping of histories, technic of operations, preparation of antitoxins and other lines of laboratory work.

Gastric Surgery.

DR. WILLIAM J. MAYO, Rochester, Minn., read a paper entitled "Complications Following Gastro-Enterostomy," in which he gave a résumé of 107 operations performed by him in the last ten years, of which 10 resulted fatally. Attention was directed to the fact that entero-anastomosis was more often necessary with the suture than with the button, the disadvantage of the latter being that it sometimes drops into the stomach.

DR. J. M. T. FINNEY, Baltimore, read a paper on "Pyloroplasty, with Report of a New Method," in which he reported the various operations of the past and present and described in detail his own method as follows: 1. All the operations heretofore suggested for the relief of benign stricture of the pylorus are open to serious individual objections. 2. The operative procedure used in the cases reported combines more good points and less objectionable features than any other method that has been suggested up to the present time.

DR. ARTHUR D. BEVAN, Chicago, mentioned as complications of about 20 cases in which he had performed pylorectomy and gastro-enterostomy, 1, drowning of the patient during the operation because the stomach was not properly washed out; 2, pneumonia, twice; 3, return of the carcinoma on about the fourteenth day in a case of gastro-enterostomy which had otherwise run a normal course; 4, death from exhaustion, twice, and, 5, resection on opening the abdominal wound on twelfth day after the tissues were removed. The Kocher pylorectomy was thought to be superior to the method advocated by Dr. Finney.

Carcinoma of Appendix.

"Carcinoma Limited to the Appendix Vermiformis; Discussion of the Origin and Its Relation to Appendicitis" was the title of a paper read by Drs. Richard H. Harte and Robert N. Willson, Philadelphia, in which the authors reported two cases both occurring in young adults and each of which had presented symptoms of recurring attacks of appendicitis. The small number of similar conditions noted in the literature was felt to be due to the fact that the condition was seldom recognized, and it was believed that exploratory operation and pathologic examination of the tissue was the only means of establishing a certain diagnosis in the early stages. The advantage of early and radical operation was remarked and the prognosis was thought to be fair under such circumstances.

Operation for Aneurism.

DR. RUDOLPH MATAS, New Orleans, read a paper entitled "A Modified Radical Operation for the Cure of Peripheral Aneurisms, with Reports of Cases Operated On," and after defining the radical operation and referring to the technic of early methods he directed attention to the revival of interest at the present time in the suture of arterial wounds, which he believed to be the best method of procedure. After the operation a simple sterile dressing is applied and the limb imbedded in plaster of Paris, if the wound is at the flexure of a joint, or by a suitable splint after sufficient padding has been applied to protect the parts from undue pressure or exposure to the cold.

Silver Filigree in Hernia.

DR. WILLY MEYER, New York, read a paper entitled "Implantation of Silver Filigree for the Closure of Large Hernial Apertures," in which he referred to the value of this procedure in cases of large hernial apertures which can not be closed by a radical operation or autoplasty, reporting three cases, two women and one man, in all of which the operation proved successful. Reference was also made to the successful use of silver filigree in replacing the diaphysis of the tibia that had been lost in consequence of osteomyelitis; in replacing the resected part of the lower maxilla; in overbridging a gap in the skull after trephining, and in covering a defect in the trachea.

Election of Officers.

Officers for the coming year were elected as follows: President, Dr. Maurice H. Richardson, Boston; secretary, Dr. Dudley P. Allen, Cleveland; treasurer, Dr. George R. Fowler, Brooklyn, and recorder, Dr. Richard H. Harte, Philadelphia. The place of meeting for 1903 was fixed at Washington, D. C.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hyperchloridia.

Einhorn, in *Amer. Medicine*, recommends the following medicinal treatment in cases of hyperchloridia:

℞. Magnesiæ ust.
Sodii carb. exsic.
Sodii bicarb.
Sacch. lactis, āā 3v 20

M. Sig.: One half to one teaspoonful three times a day two hours after meals; or:

℞. Magnesiæ ust.
Pulv. rhei rad.
Sodii bicarb.
Sacch. lactis, āā 3v 20

M. Sig.: One half to one teaspoonful three times a day, two hours after meals.

He states, also, that the bromids are of great benefit in this affection, especially in those individuals presenting other symptoms of nerve irritation, such as headache, insomnia, discomfort, etc. He favors frequent feeding, three large meals and two or three smaller ones (consisting of milk, bread and butter only). The larger meals may include meats and eggs (hard boiled). He believes in allowing the patients to partake of large amounts of bread and butter, especially of the latter, in order to exert a beneficial influence in diminishing the gastric secretion, and in increasing the state of nutrition.

Freckles.

The following in *Amer. Med.* is recommended in the treatment of freckles:

℞. Hydrarg. chloridi corros. ..... gr. xv 1
Zinci sulphatis
Plumbi acetatis, āā ..... gr. xxx 2
Aq. rosæ ..... ʒviss 200

M. Ft. lotio. Sig.: To be applied to the face with absorbent cotton; or:

℞. Zinci sulphocarb. 3i 4
Glycerini ..... ʒiiss 75

M. Ft. lotio. Sig.: Wash the face with this solution night and morning.

Enlarged Lymphatic Glands.

J. V. Shoemaker, in an abstract in *Med. Standard*, recommends, in addition to suitable diet and hygiene, the internal administration of ferrous iodid or other preparations of iron, calcium chlorid, calcium sulphid, quinin, iodosulphate, cod liver oil and potassium chlorate. He especially favors the last-named remedy, believing that it improves the blood, promotes assimilation and nutrition and restrains suppuration. It should not, however, be given in excessive doses because of its destructive action on the erythrocytes. It is prescribed by him as follows:

℞. Potassii chloratis 3iss 6
Tinct. cinchonæ comp. ..... ʒiv 120

M. Sig.: Take two teaspoonfuls four times a day in water.

He recommends iodoform applied locally. If dissolved in oleic acid its offensive odor is partially disguised while the solvent carries it farther into the tissues. Mercurial preparations are also recommended as follows:

℞. Ol. eucalypti ..... m. xx 1 | 30
Ung. hydrarg. nit. ..... ʒss 15
Lanolini ..... ʒss 15

M. Sig.: Rub well into the parts twice daily.

Thiogenol.

Because of the disagreeable odor and taste of ichthyol, according to an abstract from Prof. Jaquet of Basel, in *Ther. Month.*, many substitutes have been offered for this valuable remedy, but none seem to be without objectionable features. Thiogenol, it is claimed, possesses essential advantages over all previous substitutes. It is a synthetic product, containing 10 per cent. of firmly-united sulphur. This product is the sodium salt of sulphonic acid, and is readily soluble in water or alcohol. Professor Basel recommends a 2 per cent. solution for gonorrheal injection, in dermatitis and prurigo. He applied it both pure and in a 20 per cent. ointment. A paste of the following composition is also recommended:

℞. Thiogenol 3i 4
Zinci oxidi ..... gr. xlv 3
Pulv. amyli ..... gr. xlv 3
Glycerini
Aquæ, āā ..... m. xv 1
Ung. glycerini 3ii 8

M. Sig.: Apply locally to the skin.

Carbolic Acid Poisoning.

Stanley R. Woodruff, in *New York Med. Jour.*, recommends as the first step in treatment of carbolic acid poisoning, quick and rapid neutralization of the acid in the stomach. In order to accomplish this, a tube should be gently passed through the pharynx and into the esophagus only a short distance, and about eight ounces of whisky, brandy or diluted alcohol allowed to flow in. After waiting a time, without removing the tube, about one pint of tepid water is allowed to run in. The tube is then carried down into the stomach and the organ emptied.

The next step is to prevent absorption, as far as possible, of whatever amount of the acid may remain in the stomach. Theoretically this is best accomplished by introducing a substance that will unite with the acid and form an insoluble compound. Magnesium sulphate (Epsom salts) is the best for this purpose, which forms with the acid an insoluble sulphocarbolate. The salt should be dissolved in warm water and poured through the tube. During this period the patient should be properly stimulated and kept warm by means of external heat.

As a demulcent mixture the following is recommended:

℞. Bismuthi subnit. 3i 30
Olei olivæ ..... ʒii 60
Olei ricini 3i 30
Mucil. acaciæ ..... ʒiss 45
Aq. calcis ..... ʒvi 180

M. Sig.: One tablespoonful every hour.

Entero-colitis, or Summer Diarrhea, of Infants.

N. S. Davis, Jr., in *Sys. of Phys. Ther.*, states that the ailment differs from simple diarrhea by more frequent defecation and stools containing streaks of blood and mucus. The child generally has more or less fever. Children are especially liable to be attacked during their second year, after they have partly or wholly left the breast, particularly in the summer season. When the disease makes its onset, the intestinal canal should be properly cleansed by a laxative such as calomel, or often better still, castor oil. For twenty-four to forty-eight hours, sterilized water only should be given or a little rice water or arrow-root, tapioca or sago cooked with water. When given to older children, these drinks may be flavored with nutmeg, cloves or cinnamon. Milk should be discarded for two or three days or often for a longer time. During this time not more than a tablespoonful or two of food should be given every two or three hours. Besides the rice or other farinaceous water just mentioned a little beef-tea or veal or mutton broth may be given. Egg albumin stirred into water may be given. Children one or two years old can take the cereal waters best, and after the first few days a somewhat thicker gruel. Milk can not be tolerated because the casein in it is not well digested. When improvement begins and it seems necessary to give more nourishing food, a modified milk containing 3 per cent. of fats, 4 or 5 per cent. of sugar and 2 or 3 per cent. of proteid may be employed. The mixture should be slightly alkaline by the addition of lime water.

Flushing the colon with sterile water is of great importance. It should be done once or twice daily and in some cases oftener. A large quantity of water should be used so that the colon

will be cleansed, at least in the lower parts. Anodynes, antiseptics, astringents and stimulants have their place in the treatment, but will surely fail unless hygienic and dietetic rules are also followed.

Medicolegal.

Change of Disposition as Evidence of Suffering.—In Gulf, Colorado and Santa Fe Railway Company vs. Moore, a personal injury case against the company, the Court of Civil Appeals of Texas holds that testimony that before the accident the disposition of the party injured was pleasant, bright and sunny, and that after he was injured he was depressed in spirits and melancholy, was admissible in evidence as tending to show that he suffered physical pain and mental anguish on account of his injuries, the charge of the trial judge not permitting the jury, in assessing damages, to allow anything on account of his depression and melancholy.

Care Which Must Be Taken of Patient in Infirmary.—The Supreme Court of Arkansas says of the case entitled Seabrook vs. Orto that it was brought by the proprietors of an infirmary to recover $260 for services rendered in the care and attention given in the infirmary to the wife of the first-named party, a patient therein, for the period of three weeks, at the agreed price of $20 per week and $200 for professional services in performing a surgical operation. There was no controversy as to the prices charged, but the husband claimed that the parties suing had failed to comply with their contract to extend proper and reasonable care for the welfare, comfort and convenience of the patient after the operation was performed on her and while she remained in the infirmary. Continuing, the Supreme Court says that it devolved upon the parties suing to prove that the services were rendered in a careful and skilful manner, and that they complied with their contract, which required them to give proper care and attention to their patient, and to furnish careful and skilful nurses to that end, and furnish properly-kept rooms, water, etc. The trial judge excluded certain evidence offered by the husband tending to show that the parties suing had not complied with their contract in this particular, and took the case from the jury, and rendered judgment for the parties suing, which, the Supreme Court holds, was error, and for which the judgment must be reversed, and a new trial ordered.

When is a Specialist a Specialist?—Skill Required.—The malpractice case of Baker vs. Hancock, reported on page 1270 of THE JOURNAL of May 10, 1902, has been before the Appellate Court of Indiana again, on a petition for rehearing. After stating that "a physician is a physician whenever he acquires sufficient learning to be intrusted by the proper legal authorities with a legal license to practice medicine, and it is actually practiced," the court says that the attorneys for the party sued, in their brief upon this petition, inquired: "When is a specialist a specialist?" The court answers that the question is not one of law; it is a question of fact. The party sued may or may not have qualified himself as a specialist. Whether he had done so was a matter within his own knowledge and primarily for his own determination. Having arrived at the conclusion that he possessed such qualification, it still remained optional with him as to whether he would hold himself out and receive and treat patients on the basis of it. When he determines to do this and does it, it then becomes his duty to exercise that degree of skill which he thereby represented himself as possessing. To relieve one practicing medicine under such circumstances of responsibilities commensurate with the pretension by which patients are secured and compensation fixed, would be to give ignorant practitioners license to defraud and to place innocent patients at their mercy. The definition of the noun "specialist," as given in the Standard Dictionary, was followed in the original opinion. It is said in that work to mean "more especially a physician or surgeon who applies himself to the study and practice of some particular branch of his profession." The thing on account of which the party suing sought to recover damages was the alleged negligent destruction of part of his nose. Two paragraphs of the complaint proceeded upon the theory that the party sued held himself out as a specialist. If, so holding himself out, he undertook to diagnose and treat the case of the party suing as coming within the specialty so practiced by him, he was bound to use that degree of skill which such practitioner of necessity should possess. It became his duty to give every patient to whom he undertook in that capacity to render service the benefit of that reasonable skill exacted by the law from one thus engaged. It was argued further that in holding testimony as to the treatment of other patients incompetent, the court omitted to consider the "connecting link of sameness." In this the court says counsel were mistaken. The only sameness between the cases alleged to have been cured and that of the party suing, so far as shown, was the remedy used by the party sued. With these statements the court overrules the petition for rehearing, leaving the case with a judgment in favor of the party sued reversed and a new trial ordered.

Requirements of Privileged Communications.—Section 834 of the New York Code of Civil Procedure provides that "A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity." To bring the evidence of a physician within the prohibition of the above section, the Court of Appeals of New York holds, in the case of Griffith vs. The Metropolitan Street Railway Company, three elements must coincide: 1. The relation of physician and patient must exist; 2, the information must be acquired while attending the patient; 3, the information must be necessary to enable the physician to act in that capacity. In this case, where a boy was injured by a street car, the record disclosed that an attending physician of the hospital to which the boy was taken was at the scene of the accident when the ambulance arrived, rendered first aid to him in a drug store immediately after the accident, and rode with him in the ambulance about three blocks of the way to the hospital. He was also a surgeon in the employ of the street railway company, though whether such employment commenced before or after the accident was not disclosed. About ten days after the accident he next saw the boy; at the hospital, when he had a talk with him, as he said, as part of his duty toward the company. Under these circumstances, the physician having testified that, after having rendered the first aid and ridden in the ambulance as stated, he had no relation to the boy, either as an official of the hospital or otherwise, until he saw him at the hospital about ten days after the accident, as a part of his duty to the company, as stated, and did not go to the hospital to treat him in any sense as a physician, the court considers it doubtful whether either of the requisites to making a communication privileged was established. It says that there were no facts shown which would warrant the presumption that the relation of physician and patient existed, or that would justify the conclusion that the conversation with the doctor had any relation to professional treatment. Again, it says that, while there may be circumstances in which it is necessary for a physician to inquire of a patient how an accident happened, in order to properly treat him, that is not true in all cases, and where there is nothing to show that the information acquired was at all necessary to enable the witness to treat the patient professionally, it does not fall within the condemnation of the statute. The information sought need not be confidential in its nature, but it must appear in some way that it was necessary to enable the physician to act in his professional capacity. Moreover, the court says that it is a well-settled rule that the burden of showing that evidence sought to be excluded under this section is within the prohibition of the statute rests upon the party seeking to exclude it. And it thinks that the party suing did not in this case sustain the burden of showing that the evidence excluded was within the prohibition of the statute. In arriving at this conclusion it adds that it is not laying down a general rule. The statute states the general rule, and the court simply decides that the peculiar facts of this particular case do not come within its operation.

Current Medical Literature.

AMERICAN.

.Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, June 28.

1 *A Remarkable Case of Coma, Apparently Due to Acid Intoxication Sui Generis. D. L. Edsall.
2 *Dysmenorrhea. J. J. Gurnet Williams.
3 Tinnitus Aurium. G. Griffin Lewis.
4 A Case of Acute Articular Rheumatism with Pyemic Temperature Treated with Antistreptococcic Serum. R. J. Chipman.
5 Two Cases of Hydrocele Presenting Unusual Features. Frederick Griffith.

New York Medical Journal, June 28.

6 The Methods Which Make for Success in Medicine in the Twentieth Century. T. Gaillard Thomas.
7 *A Case of Pregnancy Complicated by Pyonephrosis, with Remarks. Charles G. Cumston.
8 *Cerebral Localization and Brain Functions. (Concluded.) L. Harrison Mettler.

Boston Medical and Surgical Journal, June 26.

9 The Present Status of the Practice of Medicine, and the Urgent Need of More Stringent Application of Hygienic and Sanitary Laws. (To be continued.) Willard S. Everett.
10 The Importance of Milk Analysis in Infant Feeding. A. H. Wentworth.
11 *Typhoid Spine (Spondylitis Typhosa; Perispondylitis Typhosa). Elbridge G. Cutler.
12 *Analysis of Twenty-six Cases of Typhoid Spine. Frederick T. Lord.
13 Some Cases of Malaria Accompanied by Acute Abdominal Symptoms. James M. Jackson.
14 The Diagnosis of Malaria by Stained Specimens of Blood. H. F. Hewes.

Medical Record (N. Y.), June 28.

15 The Differential Diagnosis of Typhoid and Malarial Fevers, with Especial Reference to the Occurrence of Both Diseases in the Same Patient; with Report of Cases. Isaac Ivan Lemann.
16 *Combined Transverse and Longitudinal Incision in Median Laparotomy, with the Object of Preventing Ventral Hernia. Lewis A. Stimson.
17 Empyema of the Antrum of Highmore, with Ptosis and Diplopia; Understudy of the Effect of Treatment of the Ocular Disturbances. Heber N. Hoople.
18 *A Word About American Mineral Waters and Mineral Spring Resorts. James K. Crook.
19 The Characteristics and Tendencies of Modern Medical Progress in America. Jonathan Wright.

Medical News (N. Y.), June 28.

20 *Medical Etiquette at the Dispensary Clinic. Thomas J. Hillis.
21 The Local Treatment of the Organs. (Concluded.) Byron Coakley.
22 *The Causes and Manner of Death in Epilepsy. William P. Spratling.
23 *General Enteroptosis. Robert T. Morris.

American Medicine (Philadelphia), June 28.

24 *Milk, Butter and Butter Substitutes, in Relation to Public Health. George M. Kober.
25 *The Surgical Elevation and Conservation of the Prolapsed Ovary and Tube (Adnexopexy). Henry D. Beyea.
26 *The Ear from a Medicolegal Standpoint. W. Scheppegrell.
27 Pyemia, with Report of a Case. Henry D. Fulton.
28 The Significance of Eosinophilia in Pemphigus. John W. Coe.

St. Louis Medical Review, June 28.

29 Points in Kidney Disease Worth Knowing. J. H. Adams.

Cincinnati Lancet-Clinic, June 28.

30 *Diseases of the Gall-Bladder and Its Ducts. Edwin Ricketts.
31 *Observations on the Treatment of Chlorosis. L. A. Ewald.
32 Enlargement of the Thyroid Gland Disappearing After Removal of Adenoid Vegetations. Francis W. Davis.

American Practitioner and News (Louisville, Ky.), June 1.

33 Malaria; Its Prevention and Cure. H. E. McKay.
34 Asepsis of the Digestive Tract. W. J. Leach.
35 Some Things That Should Not Be Forgotten by the General Practitioner. Bittle C. Keister.
36 Obstructions of the Nasal Passages. M. F. Coomes.
37 Infection of an Ovarian Cyst by the Typhoid Bacilli. Edwin Walker.
38 When Should We Operate for Appendicitis? R. C. M'Chord.
39 Looking Backward. John E. Harris.

Annals of Gynecology and Pediatry (Boston), June.

40 A Report of Six Cases of Surgical Erysipelas, Treated with the Antistreptococcic Serum, Without Benefit. Edwin Rosenthal.
41 Gallstones, with Report of Cases. W. H. Nute.
42 Pancreatic Cysts and Their Treatment, with Report of Two Cases. A. C. Heffenger.
43 *Amputation of the Penis, Followed by Multiple Pregnancy in Wife. R. Harvey Reed.

Annals of Surgery (Philadelphia), June.

44 *Fracture of the Base of the Fifth Metatarsal Bone by Indirect Violence. Robert Jones.
45 *Studies in the Pathogenesis of Appendicitis. Simon P. Kramer.
46 *Clinical Observations on the Surgery of the Gall-Bladder. Albert J. Ochsner.
47 *Analysis of Three Hundred and Twenty-eight Operations upon the Gall-Bladder and Bile Passages. William J. Mayo.
48 *The Surgical Aspects of the Status Lymphaticus. Joseph A. Blake.
49 *Abscesses in the Right Iliac Region, and Other Lesions Not of Gynecologic or Appendiceal Origin Mistaken for Appendicitis. Joseph M. Spellissy.
50 *Sarcoma of the Mesentery. Augustus C. Bernays.
51 *Hemostasis of the Broad Ligament. Henry P. Newman.

Western Medical Review (Lincoln, Neb.), June 14.

52 The Limitation of Medical Colleges. W. B. Ely.
53 *Etiological Factors in the Production of Tumors. George Halley.
54 *A Consideration of the Different Surgical Procedures in the Removal of Fibromyoma of the Uterus. Joseph Eastman.
55 *Myomectomy: Its Place in the Treatment of Fibromyoma of the Uterus. O. Beverly Campbell.
56 *Management of Uterine Fibromyomata Complicated by Pregnancy. Miles F. Porter.
57 *Treatment of Fibroids of the Uterus by Electricity—The Present Status. Franklin H. Martin.
58 Treatment of Dislocation of the Clavicle Through Open Wound, with Report of a Case. James E. Moore.

American Journal of the Medical Sciences (Philadelphia), June.

59 *Observations on the Nature of the Bence Jones Albumin. Charles E. Simon.
60 *Paratyphoid Infections: With Report of a Case Clinically Identical with Typhoid Fever in Whose Blood a Paratyphoid Bacillus Was Found. Warren Coleman and B. H. Buxton.
61 *An Analysis of Seventy-one Cases of Typhoid Fever Treated in the Children's Hospital of Philadelphia During 1901. Alfred Hand, Jr., and John K. Walker.
62 *The Frequency of Heredity in Gastro-enteric Disturbances. Franz A. R. Jung.
63 Tuberculous Pericarditis: Followed by Remarks upon Paracentesis and Incision. Beverley Robinson.
64 A Case of Aortic Insufficiency, with Pericarditis, Pleurisy, and Mediastinitis. Augustus A. Eshner.
65 *The Fluorescence of Quinin and Other Remedies in the Cure of Malarial Fever. A. F. A. King.
66 *A Study of Hyperplasia of the Pharyngeal Lymphoid Tissue (Adenoids) with Especial Reference to Primary Tuberculosis of the Pharyngeal Tonsil. Augustus J. Lartigau and Matthias Nicoll, Jr.
67 A Case of Intratracheal Colloid Struma; Operation; Recovery. Clement F. Theisen.
68 Exencephalic (Iniencephalic?) Monster with Bilateral Harelip and Cleft Palate. Ellis E. W. Given.
69 A Case of Hypernephroma of the Kidney Complicating Pregnancy. George M. Boyd and Joseph McFarland.
70 Observations upon Recent Methods of Treating Corneal Ulcers with Especial Reference to the Use of Carbolic Acid as a Not Infrequent Substitute for the Actual Cautery. Samuel Theobald.
71 Primary Syphilitic Optic Neuritis. C. A. Veasey.

Journal of Medicine and Science (Portland, Me.), June.

72 In Local History—Extracts from an Old Medical Journal. Franklin Staples.

New York State Journal of Medicine (N. Y.), June.

73 Malignant Neoplasms of the Large Intestine. James P. Tuttle.
74 Radiotherapy in Cancer and Skin Diseases. Charles W. Allen.
75 Technique of Fixation of Prolapsed Kidney. Augustin H. Goelet.
76 The Leucocyte Count in Fractures. William G. Le Boutillier.
77 The Treatment of Cancer. B. W. Stearns.

Washington Medical Annals, May.

78 Diagnosis and Management of Some of the More Common Lesions of the Adult Knee. V. P. Gibney.
79 Two Cases of Subcapsular Hepatic Hemorrhage in the Newborn. W. C. Woodward and D. S. Lamb.
80 Skiagraphs of Fracture of Both Bones of Left Leg. C. W. Franzoni.
81 Case of Ruptured Tubal Pregnancy. J. W. Bovée.
82 Case of Stricture of Esophagus; Gastrostomy. J. Ford Thompson.
83 Anesthesia with Combined Nitrous Oxid and Ether. Edwin M. Hasbrouck.
84 Two Peculiar Complications of Labor; Short and Long Cords. Geo. W. Wood.
85 Case of Complete Transposition of the Viscera. I. W. Blackburn.
86 Prostatic Hypertrophy: Castration, Prostatectomy, Bottini, Which? Ernest F. King.
87 Case of Chronic Internal Hydrocephalus. D. S. Lamb.

Annals of Otology, Rhinology and Laryngology (St. Louis), May.

88 *Rheumatism of the Nose (Rhinitis Rheumatica). W. Freudenthal.
89 Report of a Case of Temporo-sphenoidal Abscess, with Presentation of Patient. James F. McKernon.
90 Leukoplakia Buccalis, with Report of Case Treated with X-Rays. Otto J. Stein.
91 *Treatment of Keratosis of the Fauces. Charles W. Richardson.
92 *The Etiology of Deformities and Deviations of the Nasal Septum. William L. Ballenger.
93 *Essentials in the Treatment of Laryngeal Tuberculosis. Robert Levy.

94 External Nasal Neoplasm. John C. Lester.
95 Thyrotomy for Laryngeal Papillomata. Edward F. Parker.
96 Report of an Unusual Case of Naso-pharyngeal Adenoids. Charles E. Munger.
97 *The Frequency of Ethmoiditis in So-called Nasal Catarrh. W. B. Shields.
98 Septum Operations Under Cocain and Nitrous Oxid Gas. B. S. Booth.
99 *Pharyngo-mycosis Leptothrica or Hyperkeratosis Pharyngis. Joseph C. Beck.
100 A General Consideration of Hyperplasia of the Lingual Tonsils. Seymour Oppenheimer.
101 A Case of Congenital Fistula of the External Nose. Norval H. Pierce.
102 Empyema of the Frontal Sinus: Some Observations on Its Treatment. George L. Richards.
103 Temperature After Mastoid Operation. Thomas J. Harris.
104 An Unusual Case of Nasal Granuloma. H. L. Myers.
105 Laryngeal Chorea—Report of a Case. James F. McCaw.
106 Enormous Naso-pharyngeal Soft Fibroma, with a General Discussion of the Different Varieties of This Class of Neoplasms. Christian R. Holmes.

St. Louis Courier of Medicine, June.

107 The Effect of Footwear upon the Form and Usefulness of the Foot. Phil Hoffman.
108 The Oviducal Segment of the Utero-ovarian Artery. Byron Robinson.
109 Hour-Glass Contraction of the Uterus During the Second Stage of Labor. Granville E. Dickinson.
110 Extrauterine Pregnancy. G. G. R. Kunz.

Archives of Ophthalmology (New Rochelle, N. Y.), May.

111 Gummatous Invasion of the Bone, Skin, Conjunctiva, Retina and Uveal Tract; Complete and Rapid Recovery. A. Barkan.
112 An Eyelash in the Anterior Chamber; Removal. John Dunn.
113 Clearing up of Traumatic Cataract; Report of a Case. James J. Mills.
114 *Some Observations on a Case of Total Color-Blindness. W. A. Nagel.
115 A Case of Phlegmon of the Orbit After Extraction of a Tooth. Otto Hallauer.
116 On the Elastic Tissue in the Human Eye, with Remarks upon the Dilatator Pupillæ Muscle. Kyoji Kiribuchi.
117 Report of a Case of Stab Wound in the Occipital Region, Followed by Homonymous Hemiopia. Harry Friedenwald.
118 On the Simultaneous Occurrence of Changes in the Retina and Choroid. Josef Haas.
119 *The Treatment of Corneal Ulcerations with Subconjunctival Injections—Their Value. John Dunn.

American Medical Compend (Toledo, Ohio), June.

120 Address, Toledo Medical College. Edmund C. Brush.
121 Some Advice; or What to Be, and What Not to Be. Park L. Myers.
122 The Nature and Significance of Aphasia. Hiram A. Wright.
123 Prophylaxis of Premature Senility. David E. Bowman.
124 Scrofulous Enlargement and Suppuration of the Glands. Milton P. Creel.
125 Report of Two Cases in Which Celerina Was Used. B. K. Thomen.

Southern California Practitioner (Los Angeles), June.

126 Address, Southern California Medical Society. Raymond G. Taylor.
127 Tuberculosis—An Historical Sketch. W. W. Beckett.
128 *Electricity in the Diagnosis and Treatment of Tuberculosis. Albert Soiland.
129 *Tuberculosis of the Nervous System. J. H. McBride.
130 *The Pathology of Tuberculosis. Stanley P. Black.
131 The Prevention of Tuberculosis—A Plea for Municipal and State Action in Providing Sanatoria for the Poor, and for More Thorough Disinfection. Hill Hastings.
132 Tuberculous Adenitis. A. S. Parker.
133 *Tuberculosis of Childhood, with Especial Reference to Infection. F. M. Pottenger.
134 Tuberculosis Cutis. Ralph Williams.
135 Sanatorium Treatment of Tuberculosis. Harvey G. McNeil.
136 Tuberculosis of the Ovaries. John R. Haynes.

New Orleans Medical and Surgical Journal, June.

137 *The Rational Treatment of Typhoid Fever. Lucien F. Salomon.
138 *The Treatment of Wounds. E. D. Martin.
139 The Annual Report of 1902 to Edwin A. Alderman, LL.D., President of the Tulane University of Louisiana; at the Annual Commencement of the Medical Department, April 30, 1902. Stanford E. Chaille.
140 *Sterility in the Female and Its Curability. S. L. Kistler.
141 A Case of Laryngeal Diphtheria Treated with Massive Doses of Antitoxin. L. G. Le Beuf.

New Yorker Medicinische Monatschrift, May.

142 *Zur Atropinbehandlung des Ileus. A. Ripperger.

Medical Times (N. Y.), June.

143 Compatible Medication, or the Physical Forces in Scientific Formulation. E. C. Hebbard.
144 Nutrition in Emergent Cases. A. L. Benedict.
145 Recent Researches in the Chemistry of Gout and Kidney Disease. A. C. Richardson.
146 Hydrotherapy and Nux Vomica in Chronic Gastritis. A. C. Griggs.

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1. **Acid Intoxication Coma.**—The case described by Edsall is one of a man 63 years of age who had been a moderate drinker and in apparently good health, who was suddenly overcome with vertigo followed by prolonged coma lasting ten hours with the symptoms and urinary signs of acid intoxication. He was given free alkaline transfusions and the symptoms as well as the urinary signs disappeared rapidly. At no time was there any indication of diabetes. He discusses the diagnosis of the case and considers certain of its features unique. In no other case had the symptoms appeared so severe nor was there so rapid an onset and disappearance. He is inclined to think that there was some gastro-intestinal disturbance in this case and that the rather heroic treatment of complete saturation of the man with alkalies, sodium bicarbonate intravenously, is responsible for the recovery.

2. **Dysmenorrhea.**—The theories of dysmenorrhea are discussed by Williams, who considers it due practically to hyperesthesia and spasm of the internal os, clot formations within the intestinal cavity and consequent uterine contractions. He has found that in the vast majority of cases of dysmenorrhea clots have been passed. As regards treatment, he thinks the general condition should be improved, especially treating anemia. The salicylates and quinin seem to act sometimes beneficially independently of rheumatism or malarial diathesis. The bowels should be carefully regulated and a very important part of the treatment is absolute rest in bed two or three days prior to the expected flow and during it. Vaginal injections of hot water twice daily up to a few days previous and beginning again a few days after the flow will be found of the greatest value. All are to be taken in the recumbent position. If there is much congestion and whenever we find tenderness, the application of iodin will be of benefit. The bromids help in many cases, if used between the periods. Morphin should be employed only when absolutely necessary and then hypodermically by a physician. When general treatment fails the proper procedure is dilatation of the cervical canal by which the internal os is not only stretched but some of the circular fibers torn as is practiced in fissures of the anus, as it is just possible that fissures may exist in the internal os in some of these cases. He does not advise it in all cases, but in selected ones where there is no acute tubal or ovarian disease and much tenderness is found on vaginal examination, nor a lacerated cervix. The failure of dilatation to relieve is due to its lack of thoroughness. If the patient is put under an anesthetic, extra care as to cleanliness must be taken. The best time is about one week after the period, the woman remaining in bed at least five days or until subsidence of all pelvic pain. If all these measures fail ovariotomy should be considered.

7. **Pyonephrosis in Pregnancy.**—Cumston reports a case at length in which there was an open pyonephrosis though the upper end of the ureter was contracted, but not enough to prevent escape. Nephrotomy was first performed and later nephrectomy. The reasons for both operations are discussed. The article contains considerable discussion of the literature in regard to the treatment of cases where one kidney is absent. He has only been able to find three reported similar operations on the kidney in pregnancy. They did not seem, as a rule, to affect or interfere with the normal outcome of the pregnancy.

8. **Cerebral Localization.**—Mettler's article is finished in this issue. The following are his conclusions:

1. The known motor and sensory areas of the cerebral cortex are not sharply distinguishable one from another, as was at first supposed by Ferrier and his followers; 2, nor are they, as separate foci, of such a character and of such relative unimportance as to render the action of the brain that of a single organ, for which Goltz and his school contended. 3. There are separate motor and sensory centers within the cortex, but they are closely intermingled and are most intimately connected with one another. 4. Both the motor and sensory areas have foci of special intensity; the former in the central, the latter in the posteroparietal lobules. 5. While there may be a general intercommunication between all the sensory and motor elements of the cortex, there is the most intimate connection between the related sensory and motor cells which preside over corresponding parts of the body. 6. The primary function of these cortical sensory-motor groups of cells as couplets is that

of reflex action like that of the sensory-motor reflex arcs of the various spinal cord segments. This is shown by the morphologic and embryologic development of the entire cerebrospinal axis, and it explains most satisfactorily the majority of the sensory-motor phenomena of physiologic experimentation and clinicopathologic observation. 7. Mentalization depends upon sensory-motor phenomena, and is therefore a function probably of the cortex, basal ganglia, and entire nervous system. Conscious mentalization is probably a function of the cerebral cortex alone. The relative importance of the cortical areas in the production of the mind is not yet determined. 8. Inhibition is apparently the latest and highest differentiation in the functions of nervous matter, though it is itself a more or less latent function of all nervous substance, its degree of activity varying merely with the stage of nervous development. 9. Inhibition is probably the special function of the forebrain and therefore endows this part of the nervous system with a commanding influence over the rest of the nervous apparatus. The forebrain is therefore justly spoken of as preëminently the psychic center, though when exhaustively examined, its inhibitory and reflex functions differ from the inhibitory and reflex functions of the ganglia lower down in the cerebrospinal axis in degree rather than in kind. 10. The inhibitory function of the forebrain appears in the sphere of consciousness, and thus forms the basis of volition. It is preeminent in force and manifestation, but it does not preclude the exercise of the same function in a lesser degree by the lower parts of the nervous system upon parts still lower. 11. The sensory-motor functions of the cerebral cortex are psychical in character, and influence the external parts of the body through the mediation of the cord and special ganglia, just as the highest of all the psychic centers, the forebrain and other association territories still unknown, influence the body through the sensory-motor cortex, special ganglia, and spinal cord. 12. In fine, inhibition and reflex action being the special property of all nervous matter, they are found, in varying graduation, as the functions of the most highly organized matter of the cortex, which therefore seems to be the special seat of mind, down to the most primitive ganglia of the spinal cord which retain only the lowest degree or most elementary form of reflex irritability.

11, 12. **Typhoid Spine.**—Cutler reports a case of this condition which is rare, with the prognosis and treatment. Lord analyzes twenty-six cases of the condition which have been reported in the literature. He concludes that in general the pathology of the process seems most reasonably a perispondylitis or spondylitis or both. A few of the cases may be neuroses. The co-existence of the deformity and nervous symptoms in one-half of the neurotic cases suggests that all the neurotic cases may be organic as well. Localized pain was present in all and associated with local tenderness in 16. Stiffness of the spinal column was indicated in 8. These symptoms together with radiating pain in 10 cases, of disturbed knee-jerks in 8, and the association of these two symptoms in 5, with muscular spasm in other than the adjacent spinal muscles in 3, and disturbed sensation in the distribution of the spinal nerves in 5, suggest the involvement of the nerve roots in a periostitis. A rise of temperature in 7, without other cause than the spinal lesion, is still further suggestive of organic trouble. The existence of kyphosis in 8 cases seems to confirm the organic character of the nerve root symptoms, and definitely indicates bony as well as periosteal involvement. The most satisfactory treatment seems to be rest in the horizontal position, immobilization, etc. The prognosis is good.

16. **Laparotomy.**—The title of this article indicates Stimson's suggestions as to the use of the modified and sometimes double incision in laparotomy, which he has employed in some 50 cases. "The operation consists of a curved transverse incision through the skin, aponeurosis and sheath of the recti, followed by the usual longitudinal separation of those muscles and division of the peritoneum. The incision crosses the median line about four centimeters above the upper margin of the symphysis pubis, and extends on each side toward the anterior superior spine of the ileum to a distance varying with the amount of the subcutaneous fat. It is then carried through the aponeurosis and sheath of the rectus on each side, its outer portion following the direction of the fibers of the aponeurosis, and the deeper portion not extending beyond the outer edge of the rectus, and the upper flap thus outlined is raised from the muscles by division of its attachment to the septum constituting the linea alba. The sheath below the incision is similarly freed toward the symphysis; a few vessels connecting the sheath and the recti will need to be ligated. The recti are then separated and the peritoneum divided in the median line in the usual manner. At the termination of the operation the peritoneum is sutured, and the flap replaced and secured by catgut sutures. I have generally sutured the sheath and the aponeurosis separately in the outer part of the incision. The skin is sutured with silk; if drainage is necessary, the drain is placed at the center of the incision in the median line, and if the wound has been contaminated by contact with pus a small rubber tissue drain is placed between the flap and the rectus on each side, emerging near the end of the incision. The longitudinal portion of the incision can easily be extended in this manner from the symphysis two-thirds of the distance to the umbilicus, and as the division of the sheath and aponeurosis permits easy separation of the recti, the available space thus acquired for intra-abdominal manipulation is greater than it is with the same length of longitudinal incision directly through the parietes in the usual manner. As a result, the central transverse portion of the incision is protected from a separating strain by the uninjured recti beneath it, and the longitudinal portion by the overlying fascia, which is uninterrupted longitudinally except at the ends where the separation is oblique in the direction of and not across its fibers. If more space is needed, the flap can be split longitudinally in the median line and the incision prolonged upward as far as may be necessary." He has operated in this way for salpingitis, tubo-ovarian disease, ovarian cysts, hysterectomy, intestinal resections and enterorrhaphy and in only three or four has he found it desirable to make the supplementary longitudinal incision through the flap for extension upward. In no case has there been any resultant laxity of the abdominal wall.

18. **American Mineral Springs.**—Crock points out that in America we have mineral waters fully as good as or better than are possessed by the European resorts—with the exception of the sulphated saline waters. Our springs of this nature are generally a little less concentrated, with the possible disadvantage of requiring somewhat larger liquid dosage. This, however, does not affect their therapeutic effects if properly used. The trouble here is that there is no medical control of these springs and balneotherapy has received too little attention and the consequence is that our patients go abroad and are lost for the time. In every other respect our resorts have fully the advantages possessed by the European spas.

20. **Medical Etiquette.**—Hillis' paper is a showing up of the evils of commercialism as existing in the dispensary clinics, and he suggests an oath which everyone connected with the clinic should take, that they will confine their labors purely to charity and not impose on or harm in any way their brethren of the profession.

22. **Death in Epilepsy.**—From a study of 220 deaths among epileptics Spratling suggests the cause and manner of death in the disease to be approximately as follows: Out of every 100 epileptics who die about 4 do so as the result of a single fit; about 24 as the result of status epilepticus; about 12 as the result of some accident, including suffocation in bed; about 24 as the result of some disease of the lungs, chiefly tuberculosis; about 10 as the result of some organic disease of the heart; and about 26 from all other causes.

23. **General Enteroptosis.**—The rather common cases marked by the relaxation of the peritoneal supports of the viscera are included under this head by Morris, who attributes their occurrence largely to the corset, which is a splint and under which the muscles, as in other parts of the body, undergo atrophy, thus impairing their function of support. If the corset engages the lower rib line and prevents the liver sliding over the right kidney as it should in normal respiratory movements, the liver has a range like the piston of a pump and

crowds the right kidney away from its loose anchorage. Corsets, he says, may be classed, therefore, as splint corsets and pump corsets. When the muscles have become atrophied they are likely to pull apart along the line of the linea alba in parturition. The muscular diastasis actually increases after the patient is up. Various visceral derangements follow, with irritation of the solar plexus and a train of reflex disturbances of the sympathetic system to add to the patient's distress. Palliative treatment can do a great deal for some of these cases. The corset that was originally responsible for the trouble may be used. It is too late to dispense with it and it can be used by fitting it snugly while the patient is in the recumbent position and after the liver and kidneys have been replaced as well as possible. If the corset can be so applied as to support the hollow viscera, well; the patient usually loses the discomfort caused by the "afternoon bloating' which seems to be due primarily not to gastric distension but to the tiring out of the mesenteries and suspensory ligaments. The sagging hollow viscera may or may not later become distended with gas. The dyspepsia that results from the angulation of the pylorus and the drag of the gastro-colic ligament is apt to be marked by fermentative features and gastric lavage may relieve it. He gives one or two points in regard to the administration of this, to have the patient wash the tube herself and to flavor the lubricant as to make it more agreeable. Abdominal massage and electricity properly and persistently applied will make the abdominal muscles develop and stimulate the functions of the viscera so as to relieve many cases. For the operative relief of these symptoms when required, he usually makes a very long abdominal incision sufficient to permit repair of the diastasis of the abdominal muscles. He criticises Webster's method of infolding the peritoneum as it invites, he thinks, the production of ventral hernia, and it has been his practice to cut out all the elongated tissue lying between the separated muscles, and then suture the peritoneum and muscle both in their normal position, but the important preliminary step consists in shortening the ligaments of the liver. The falciform and suspensory ligaments are scarified and then gathered up with very strong chromicized catgut or silk. He also sometimes passes the cirrhosis brush over the diaphragm and adjacent liver surface, so that the removal of endothelium will result in adhesions. The patients bear the operation very well and yet it looks so formidable to him that he has not done the additional operation for loose kidney at the same sitting until recently. He has been tempted to gather up the lax gastro-hepatic omentum in some of these cases, but there is some important anatomy there and it has seemed to him better to trust to other resources. The enteroptosis operation should be done rapidly if one is to avoid shock, and all the work, with the exception of the suturing of the skin and muscle sheaths, should be completed in ten minutes from the time of beginning the operation.

24. **Milk, Butter and Butter Substitutes.**—Kober has found that a very large proportion of the epidemics of scarlet fever, typhoid and diphtheria come from dairies or are associated at least with disease at headquarters of milk producers. In 195 epidemics of typhoid there was evidence in 148 of disease having prevailed at the farm or dairy. In a proportion of cases infection probably reached the milk by the water that was used in washing the utensils. In 99 epidemics of scarlet fever the disease prevailed in 68 instances either at the dairy or the milk farm; in 6 instances persons connected with the dairy either lodged in or visited infected houses. In two instances the infection was conveyed by infected bottles or milk cans; in 17 it was conveyed by persons connected with the milk business while suffering or recovering from the disease. There is much reason for assuming that tuberculosis has been spread through the milk supply, he thinks. Milk is the most frequent cause of cholera infantum and summer diarrheas of children. He reviews also the facts as to the bacterial infection of butter and calls attention to the sanitary value of substitutes which he thinks have been overlooked to some extent by medical men. He has carefully searched the annals of medical literature for opinions opposed to the testimony of the wholesomeness and digestibility of oleomargarin and its innocence of carrying infection, and finds but very little to contradict it. On the whole, it is surprising that such evidence is not stronger since the substance has been subjected to the most rigid sanitary investigation and has been liable to the prejudice against all artificial products. He has urged upon his students for years to bring the merits and nutritive value of this foodstuff and its character as far as possible before the public and to counteract the prejudice which has been created against the use of this substitute, if sold under its true name and at its real value. In this he thinks he is supported by the highest scientific authorities both in this country and abroad.

25. **Adenopexy.**—Beyea notices the symptoms due to ovarian prolapse and describes the operation which has been devised for its relief. The technic he describes as follows: After opening the abdomen, any adhesions to the prolapsed ovary and tube are carefully separated and any necessary conservative operations performed. The fimbriated extremity of the tube is caught and drawn forward, exposing the suspensory ligament. A fine silk suture is placed through a small portion of the tubal end of the suspensory ligament, and then through the ligament near its pelvic attachment. Similarly, two or three sutures, or a sufficient number to close the fold made in the ligament, are placed below this one. The sutures are then tied. Care is taken not to include the ovarian artery or constrict it in the suturing. The position of the first suture will depend upon the degree of elevation of the adnexa desired, sometimes upon the length of the ligament and the amount of elevation gained by placing the first suture as described. It may be necessary to include in the suture the tubo-ovarian ligament to attain adequate elevation. Recently he has employed a continuous fine silk suture instead of the interrupted. The continuous suture is begun in the center of the loop of the ligament and proceeds, catching the ligament on each side, until the same result is gained. In two cases in which both ovaries were prolapsed with retroversion of the uterus the ovaries remained in Douglas' cul-de-sac after performing ventrosuspension of the uterus and, therefore, in conjunction with the suspension of the uterus he elevated the ovaries. Such a case is described and operated upon by Sänger. In another instance in which the uterus was retroverted to the second degree after elevating the adnexa he found it impossible to retrovert the uterus as before. It would seem that the performance of this operation on both sides might well be employed to restore a retroverted uterus to normal position, particularly in those cases in which the ovaries remain prolapsed after the uterus is brought forward to normal position. It appears to be equal in its advantages in this last direction to any of the intra-abdominal methods of shortening the round ligaments. The practical results have been most satisfactory and he reports a dozen cases of its performance for the relief of prolapse due to chronic catarrhal salpingitis. He has performed it also in ten women where it occurred as the result of subinvolution with complete relief of symptoms in all, but it is in the other class in particular for which he wishes to speak of its value.

26. **The Ear from a Medicolegal Standpoint.**—The points in regard to thorough examination of the ear, especially in regard to injury cases, is insisted on by Scheppegrell, who reports a case of interest from a medicolegal standpoint. It often happens, he thinks, that the patient may consider that a disorder of the ear or of hearing was due to injury, when in fact it existed long before. There may be also cases of simulation and various methods have been suggested for its detection. He says a careful examination of the ear is important not only for the purpose of making a correct diagnosis as regards the results of treatment, but also from a medicolegal point of view.

30. **Diseases of the Gall-Bladder.**—Ricketts holds that infection of the contents of the gall-bladder without gallstones is much more common than would be supposed and that gallstones are the products of a disease. It is questionable whether biliary colic can exist without infection of the gall-bladder contents and they may be the cause of cancer of the gall-bladder and its ducts and of the liver. Infection of the gall-bladder

contents following an attack of typhoid fever is not infrequent, sometimes continuing for two, three or more years, to result in the death of the patient. Continuous infection of the gall-bladder and its ducts, minus gallstones, is the more serious. The greatest amount of infected fluid found by him within the distended gall-bladder was one gallon, less one ounce, by measurement; in that case the common duct was plugged from inflammatory deposit alone.

31. **Chlorosis.**—A special ferruginous preparation, ferrosomatose, is recommended by Ewald in the treatment of chlorosis and he reports several cases in which it has been used with advantage. He gives it to adults in the dose of one teaspoonful three times a day and to children one-half that quantity. It may be administered in milk, broth or soups, and it is advisable to rub the powder with a small quantity of the fluid into a paste, and then add the remainder. Care should be taken that the preparation is completely dissolved. It is not constipating and in doses commonly administered tends to regulate the intestinal functions.

43.—This article appeared in THE JOURNAL, xxxviii, p. 1442.

44. **Fracture of the Metatarsal Bone.**—From personal experience with the accident and the observations of others, Jones finds that fracture of the fifth metatarsal bone by direct violence, though hardly mentioned in medical literature, is not at all infrequent and the explanation is a mechanical one. Its base is closely bound to the cuboid and to the fourth metatarsal by strong ligaments on every side, making its dislocation the rarest accident, it being more easy to break than to dislocate it. When the heel, therefore, is off the ground, the body weight expends itself upon the fifth metatarsal, rotating it slightly upward. The opposition to this force takes place at its base and fracture occurs indirectly from pressure on the inverted foot while the heel is raised. This fact is emphasized because authorities have stated the contrary.

45. **Appendicitis.**—Kramer describes the anatomy of appendicitis, regarding the appendix as a vestigial organ without function and accounts for its inflammatory disorder by the fact of absence of peristalsis, which he has experimentally demonstrated in the human subject in cases of appendicectomy. The foreign body, therefore, is difficult to get rid of and becomes enlarged and by pressure and irritation causes inflammation and perforation. He remarks in regard to obliterative appendicitis that it is not infrequent. He finds it in quite a percentage and he has seen cases with the symptoms of appendicitis, the appendix being simply a fibroid cord, but operation was followed by cessation of symptoms. Section of such an appendix showed evidence of inflammation in the presence of a large number of small, round, inflammatory cells in the tissue causing the obliteration. In other cases he has found the same results on postmortem where no symptoms were observed during life. Complete obliteration of the cavity does away with the danger of perforation. Another point is the question of the existence of a stercoral typhlitis which used to be believed in, though now denied by many, and he reports a case which seems to point to its possibility.

46. **Surgery of the Gall-Bladder.**—From a study of the cases here reported Ochsner says they have served to strengthen his regard for the following conclusions: "1. The diagnosis of disease of the gall-bladder and of gallstones requires further study and observation. 2. The classical symptoms must be supplemented in order to be sufficient as a basis for diagnosis. 3. It is not wise to operate during the acute attack of cholecystitis. 4. Patients much reduced by long-continued suffering do not bear well prolonged operations on the gall-bladder and ducts. 5. Robson's observation that patients with carcinoma of intra-abdominal organs do not bear gall-bladder operations well has been borne out by my experience. 6. If the operation can not be postponed in presence of extreme jaundice, it should be confined to simple drainage of the gall-bladder." He gives an elaborate tabulated statement of the 48 cases operated upon.

47. **Gallstone Operation.**—Mayo's article finds that out of the total of 328 cases here considered 311 were of benign origin and gave a mortality of 2.5 per cent.; 17 were operated on for malignant disease, with 3 deaths, a mortality of 18 per cent. In the majority of cases, 214 in number, stones were located in the gall-bladder of the cystic ducts or both with 2 deaths. In about 10 per cent. there was obstruction of the cystic duct by the stone and he believes that cholecystectomy in these cases will gain in favor and undoubtedly supersede cholecystotomy in a large proportion. In 13 cases stones were found outside the gall-bladder and bile ducts, encapsulated in the liver border or in pockets with adhesions to the intestines, but communicating with neither. There were 34 cases of cholecystitis with 5 deaths, which he regards, whether with or without stones of the cystic duct, as the most dangerous condition for operation. He thinks the dependent fundus of the gall-bladder is an important mechanical factor of this condition. In 31 cases stones were found in the common duct. In only one case was it possible to remove the stone through the cystic duct by dilating it, which he considers a lucky accident. In 2 the cystic duct tore completely loose from the common duct, leaving an irregular opening, which was closed by a plastic operation. The typical ball-valve stone of Fenger was met with in seven cases. The rule was where more than one stone was present it was possible to introduce the finger for exploration. In two cases the finger was forced well into the duodenum probably through an ulceration. There was only one death out of the 31 cases. Jaundice was a variable feature, sometimes so slight as to hardly attract attention, but in the majority well marked with stone in the common duct. In three cases capillary oozing was a serious post-operative complication. He has used calcium chlorid for about a year and has no deaths from hemorrhage, though he is uncertain as to its possible value. After removing the stone from the common duct the incision has been closed by continuous catgut sutures, providing the duct is in a good condition, otherwise the duct is partially closed leaving a gap for drainage. If the patient was in a bad condition drainage was employed without suture. Cholecystenterostomy was performed three times for chronic pancreatitis and three times for malignant disease and twice to the duodenum and four times to the transverse colon. As far as can be judged, anastomosis with the colon answered every purpose. The Murphy button was used. In 12 cases exploration showed error in diagnosis, but this does not fairly represent all the mistakes. The abdominal incision performed was the straight one over the rectus muscle, enlarged if necessary, either at the top or bottom after the method of Bevan, with the modification suggested by Robert Weir, incising the sheath of the rectus muscle and the deeper muscles obliquely and retracting the rectus itself rather than severing it.

48. **Status Lymphaticus.**—This condition, which has been associated with enlarged thymus, is noticed by Blake. He reports 7 cases, 5 of them dying in one hospital in a period of little over a year; 3 of the 7 negroes; all adults with one exception. There was in no case any evidence of compression of of the trachea. Three of the deaths occurred during the anesthesia. The thymus varied in weight from 22 to 135 grams in adults and in children from 10 to 53 grams, the largest occurring in a case of exophthalmic goiter, where its mechanical effects could not be so well estimated. He thinks that it is safe to conclude that any evidence of status lymphaticus in a patient having any variety of goiter should raise the possibility of the severity of the operation and the giving of anesthesia to these cases is at least frequently fatal. It is not possible to say how many of these patients pass through an anesthesia without accident. They may pass through one or two anesthesias and succumb to another. Chloroform is responsible for most of the reported deaths, but he thinks the fact that most of these cases have occurred where the drug is exclusively used raises the question as to whether it is more dangerous than ether. There is, however, other evidence that chloroform is the more dangerous since in the first decade, when status lymphaticus is most common, the proportion of chloroform to ether deaths is greater than for any other decade. Death may occur at any stage of the anesthesia or some hours after. The premonitory symptoms may be absent or present through a considerable period. They are those of cardiac and respiratory failure, and consist of pallor, dilatation of pupils, weakening of

pulse, and shallow respirations. The most rational treatment would seem to be direct stimulation of the heart by massage, heat, or electricity, and the injection of cardiac stimulants. The anesthetic should be stopped at once. It seems almost impossible to diagnose status lymphaticus before death, but careful physical examination may give the signs. An important diagnostic point is the evidence of lymphatic hyperplasia.

49. **Abscess and Appendicitis.**—Spellissy reports personal observations and reviews a large number of cases from the literature showing the conditions that may confuse abscess with appendicitis. He also quotes authorities, showing that considerable variation of opinion is extant in regard to the conditions. He insists upon the importance of differential diagnosis; because the diagnosis of appendicitis is ordinarily unattended with special difficulty, the possibility of other lesions occurring in the right iliac fossa is not borne in mind. We should not make a diagnosis without routine conscientious examination for, and exclusion of, the various troubles that may exhibit misleading symptoms and signs.

50. **Intestinal Resections.**—Bernays reports a case of resection of 119 inches of the small intestine with recovery, and the case is reported 61 days after operation, which was for sarcoma of the mesentery. The case is of interest, showing how much can be resected, leaving only about one-half the average length. At the present date the patient is in an excellent condition, though he has had attacks of severe headache, and occasionally vomiting. These were attributed to over-feeding and were relieved by salines.

51.—This article appeared in THE JOURNAL, June 7, 1902, p. 1501.

53.—See abstract in THE JOURNAL, xxxviii, p. 52.

54.—Ibid.

55.—Ibid.

56.—Ibid.

57.—Ibid.

59. **Bence Jones Albumin.**—The nature of the Bence Jones albumin is the subject of a lengthy discussion by Simon, who reports a case and reviews the cases in the literature. From the reported cases the conclusion may be drawn that the presence of the substance in the urine of man usually indicates the existence of multiple new-growths affecting the bones, and generally of myeloma; that myeloma may apparently occur in the absence of the peculiar albuminous substance; that the existence of the urinary condition in association with other diseases without involvement of the bones is not as yet proved by the report of any case in which a careful postmortem examination has been made; that malignant disease of the bones, in general, may exist in the absence of the Bence Jones albumin from the urine. It has been found in the urine of dogs during pyrodin poisoning according to accounts. He reviews the behavior of the substance under various chemical manipulations, and concludes that it can not be albumose, but is inclined to think it a globulin and possibly identical with that described by Noel Paton in the human urine. He is inclined rather to consider the evidence that it originated in diseased bone marrow best supported. There is no basis at present for the assumption that it originates during the process of gastric or intestinal digestion.

60. **Paratyphoid Infection.**—Coleman and Buxton report a number of cases of this disorder which are usually clinically if not practically the same as typhoid, though they lack the Widal reaction or the bacterial test.

61. **Typhoid in Children.**—Hand and Walker have analyzed a typhoid fever epidemic, especially affecting children, which occurred in Philadelphia during the summer of 1901, and from the results conclude that while typhoid fever may sometimes run a very mild or abortive form in children, yet its clinical picture does not differ from that of adults in any general feature save in a somewhat lowered mortality.

62. **Heredity in Gastroenteric Disorders.**—Jung has studied the facts in a number of families to determine the rôle of heredity in gastro-enteric disturbances and from the results of his studies he finds enteroptosis is perhaps the most frequent, with hereditary predisposition, but superacidity presents the larger number of cases in the same families. In 40 families investigated, 23 or 57 per cent. had several cases in one family of their characteristic analyses. In other words, one family out of every two presents more than one case of digestive disturbance of the same nature.

65. **Quinin.**—King's views have been noticed editorially in THE JOURNAL.

66. **Adenoids.**—The following are the conclusions of Lartigau and Nicholl's paper: "1. Adenoids consist essentially of hyperplastic pharyngeal lymphoid tissue. The epithelium and fibrous tissue changes are inconstant, variable and independent of the age of the patient. The new-formed fibrous tissue is largely perivascular in distribution. It may occasionally be one of the factors in the process of disappearance of the adenoid. 2. The hyperplastic pharyngeal tonsil often contains micro-organisms, and these are mainly pyococcal forms. The bacteria for the most part lie near the surface; and the infection usually occurs from the surface, with or without demonstrable lesion of the epithelium. 3. Primary tuberculosis of adenoids is probably more common than most previous studies show. Sixteen per cent. of our series contained tubercle bacilli, 10 per cent. with characteristic lesions of tuberculosis. The tubercle bacilli were present in small numbers. 4. The lesions in primary tuberculosis of the adenoid are generally close to the epithelial surface and focal in character. Occasionally they may be found in the deeper parts of the pharyngeal lymphoid tissue. 5. The pharyngeal tonsil may be a portal of entry for the tubercle bacillus and other micro-organisms in localized or general infections."

88. **Rheumatism of the Nose.**—Freudenthal describes a condition of inflammation of the turbinates in connection with rheumatic arthritis elsewhere, and reports several cases, a number of which he has seen. He thinks many cases of what are called simple coryza may be rheumatic and sees no reason why the nose should not be affected just because the articulations there are not as typical as those in other parts of the body.

91. **Faucial Keratosis.**—Richardson briefly describes the condition, considering the leptothrix as a secondary intruder and not the cause of the disease. The only thorough treatment is complete removal of diseased tissue with the frequent and repeated use of the cautery. Most cases will yield to this treatment if the matrix in the submucosa is destroyed.

92. **Septal Deviations.**—Ballenger adopts Talbot's views that these are the accidental signs of a neurosis and only in certain cases results of traumatism.

93. **Laryngeal Tuberculosis.**—Levy insists on the importance of thorough and early diagnosis and treatment accordingly. The greatest caution should be used against too radical or irritating methods until the acute symptoms have disappeared. In cases of extreme ulceration Freudenthal's menthol-orthoform emulsion has been the most satisfactory, but all cases should be carefully studied. At all times it should be determined whether palliative or curative methods of treatment should be adopted, or both. He insists on attention to the general condition, and remarks that local treatment may be a severe strain itself on patients in certain conditions.

97. **Ethmoiditis in Nasal Catarrh.**—Shields holds that in many cases of nasal catarrh inflammation of the ethmoidal cells is largely responsible, that chronic ethmoiditis, both purulent and catarrhal, is much more common than is generally supposed, and that many cases of post-nasal catarrh, hypertrophic rhinitis and ozena are traceable to the irritation of the ethmoidal secretion passing over the parts in the nose and naso-pharynx and producing local disease in those parts.

99. **Pharyngo-Mycosis Leptothrica.**—This condition is the same as that described by Richardson, given above under the title of keratosis. Beck goes over the subject elaborately, diagnosis, prognosis, treatment, etc., in the main agreeing with the author of the previously mentioned paper, and reports a number of cases. He remarks that true leptothrix mycosis is much rarer and a more serious condition.

114. **Color Blindness.**—In the case of color blindness reported by Nagel there was undoubtedly a small central scotoma, which is of some importance as supporting Koenig's theory, and Nagel holds that it is to be considered as being in connection with the disturbance in color perception rather than with the myopia and the central patch of the pigment in this case. There was in this case, as in most cases, a nystagmus and strabismus also existed. He found also that his patient perceived a Purkinje after image. He says that with our present knowledge it seems most likely that there is a double excitation in the rods, but how this is to be explained is still doubtful.

119. **Corneal Ulcer.**—The method of treatment in the case reported by Dunn is the use of subconjunctival injections, which, though painful at first, he thinks are on the whole less so and are most satisfactory in their results than other methods. He prefers the iodin-iodid of potash solution, though he has also tried the others that have been recommended by different writers. If subconjunctival injections have been given, the use of atropin or boric acid and aristol salve and hot applications is advised. The frequency of the hot applications will depend on the case, and the atropia may be applied twice daily in the form of a salve, and an ointment of boric acid with white vaselin, 12 gr. to the ounce, applied hourly, has also served the purpose well. His method of making the injection is, after the conjunctiva has been cocainized, to pick it up with a pair of mouse-toothed forceps about 1 cm. from the corneal margin, opposite the ulcer. Ten or twelve drops of the solution are then injected from any ordinary hypodermic syringe without removing the point. The iodin solution used is iodin 1/5 of a grain, iodid of potash 15 grains, to the ounce of distilled water.

128. **Electricity in Tuberculosis.**—Soiland thinks that there may be some value in modern high tension currents in the treatment of tuberculosis by their affecting nutrition and tissue metabolism. He speaks of the value of the *x*-rays, not only in diagnosis, but also in the treatment. By increasing the acidity of the parts traversed, setting free nascent oxygen, they probably inhibit further bacterial invasion. As regards the local treatment of external tuberculosis their value is positive.

129. **Tuberculosis of the Nervous System.**—McBride reviews the different forms of tuberculosis of the nerve tissues, including a special form of chronic progressive neuritis indicated by soreness of the muscles and pain on movement. He describes also the spinal involvement in its various forms and the cranial and cerebral conditions.

130. **Pathology of Tuberculosis.**—The points touched on by Black are the difference of the tubercle bacilli from others of the acid-fat types, the possibility of the tubercle bacillus being a phase in the development of a fungus as held by Metchnikoff, the distinction between bovine and human tuberculosis, which he considers as leaving much to be said, and the question of how infection enters the system. He thinks hereditary tuberculosis, though positively shown, is negligible on account of its rarity. The question whether tuberculosis can be acquired through ingesta is also of importance, but he has never yet seen a case of primary intestinal tuberculosis in several thousand autopsies. Inoculation tuberculosis is comparatively frequent, and he holds that at least 50 per cent. of those that are dying of the disease show evidence of having suffered from it. The special forms of lesions, especially the caseation and necrosis, are described in some detail.

133. **Tuberculosis of Childhood.**—The statistics of infantile tuberculosis are reviewed by Pottenger, who insists on the importance of attention to glandular disease contracted in childhood, as being a source of danger throughout future life. It is during childhood, he says, that the bacillus makes inroads which later cause the outbreak of the disease in the majority of cases.

137. **Typhoid Fever.**—Salomon recommends the use of arsenite of copper in typhoid. It is not the sole treatment, but it is the agent which removes the cause. He does not think the tablet or tablet triturate form is always reliable, but he gets good results by using Merck's arsenite of copper, suspended in distilled water, his directions to the druggist being that it shall be well triturated in a mortar before mixing. He generally prescribes ½ grain to 6 ounces of distilled water, which gives 1/96 gr. to the teaspoonful dose. This is given every three hours. Other details of treatment, of course, must be attended to, such as daily flushing of the colon, attention to the condition of the heart, diet and symptoms of delirium, insomnia, etc. He does not think that we should give too much attention to the temperature. Rough handling in the bath tub is condemned by him; wet packs and the ice-bag to the head are better, in his opinion. The use of strychnia for weakened heart is sometimes overdone, though he does not condemn it altogether. Of digitalis we should give enough to get its effects and watch it carefully. Solid food should never be allowed for ten days or two weeks after the fever has subsided. Under this method he has never had a fatal or a complicated case or one which lasted over 14 days.

138. **Treatment of Wounds.**—Martin sums up the treatment of wounds as follows: 1. Cleanse the hands by washing with soap (soap manufactured by process of boiling is the only soap free from germs) and scrubbing with brush for ten minutes; then cleanse subungual spaces, scrub again for five minutes, wash or scrub in alcohol one minute, wash in permanganate and oxalic acid solution or solution of chlorin for five minutes. These solutions are not necessary for the ordinary handling of wounds, and can be substituted by the use of alcohol and bichlorid 1-1000, and afterward rinsing in sterilized water. 2. Prepare the skin by scrubbing with soap and brush, five minutes or more, cleanse with alcohol and wash off with bichlorid 1 to 1000. Cleanse wound with peroxid and antiseptic solutions; dress according to character of wound. 3. Instruments are best prepared by scrubbing with soap and water and sterilizing in a 1 per cent. solution of cooking soda for at least five minutes. 4. Towels, dressings, etc., prepared by sterilizing for at least twenty or thirty minutes. Moist heat (steam) is best, as it is more penetrating. A large package of dressings will necessarily take longer than a small package. A disregard for such rules may mean not only a staphylococcal or streptococcal infection, but a syphilitic or other virus inoculation.

140. **Sterility in the Female.**—Kistler concludes that the great majority of cases of sterility are dependent upon slight causes, and are also curable. The duration of the condition is no bar to the treatment which also depends upon the existing disease as found by careful study.

142. **Ileus.**—Ripperger finds that atropin injections appear to influence a certain number of cases of ileus very favorably, but the method requires further testing. It can be tried with preference in cases of dynamic or obturative ileus; cases of strangulated ileus and cases of incarcerated hernia should be excluded from this treatment; operation is here required, but if the patient positively refuses or the conditions are absolutely unfavorable, experiments might be made with atropin injections either in strangulated ileus or in incarcerated hernia. If exact diagnosis is impossible and strangulation can not be absolutely excluded, exploratory laparotomy is to be preferred before atropin treatment.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), June 21.

1 Remarks on Some Cases in General Surgery. G. B. Ferguson.
2 *The "Open Method" of Treating Exceptional Cases of Septic Arthritis of the Knee. Walter Whitehead.
3 *A New Principle of Curing Club-Foot in Severe Cases in Children a Few Years Old. Alexander Ogston.
4 Genu Valgum. Charles A. Morton.
5 Spina Bifida: Its Operative Treatment Among Out-Patients. James H. Nicoll.

The Lancet (London), June 21.

6 *The Relation of Biology to Medicine. J. Rose Bradford.
7 *Chronic Hypertrophy of the Faucial and Pharyngeal Lymphoid or Adenoid Tissues. F. Marsh.
8 *The Relation of Vital Statistics to Sanitary Reform. Arthur Newsholme.
9 Embryologic Aspects and Etiology of Carcinoma. J. Beard.
10 *A Case of Difficult Diagnosis with a Rare Complication. H. J. Mackay.

11 Large Malignant Growth of the Pylorus; Posterior Gastrojejunostomy; Patient in Perfect Health Fifteen Months After Operation. Mayo Collier.
12 Eosinophilia Associated with Hydatid Disease. C. G. Seligmann and L. S. Dudgeon.

Annales Pasteur (Paris), April.

13 Contribution à l'étude de l'anémie expérimentale. C. Levaditi (Bucharest).
14 Contribution à l'étude de la piroplasmose canine. Nocard and Motas.
15 Seconde note sur la malaria des bovidés. Nicolle and Adil-Bey.
16 Sur la marche de la courbe d'antitoxine dans l'immunisation active contre le botulisme. J. Forssman and E. Lundstrom.
17 Recherches sur la transformation exp. de bacteries banales en races parasites des plantes. L. Lepoutre.

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18 Essai sur la biologie du bacille pyocyanique. C. Gessard.
19 Contribution à l'étude des propriétés et de la nature des mélanges des toxines avec leurs antitoxines. J. Danysz.
20 Recherches sur les modes d'utilisation du carbone ternaire par les végétaux et les microbes. P. Mazé.
21 Etude du roussage aérobie du lin. L. Hauman.

Bulletin de l'Academie de Med. (Paris), June 3.

22 *Evolution of Tsetse Fly Disease and Its Variability in Different Animals. A. Laveran.—De l'évolution du nagana et de sa variabilité suivant les espèces animales.

Revue de Chirurgie (Paris), June.

23 *Fibrous Strictures of the Small Intestine. E. Quénu and H. Judet.—Des rétrécissements fibreux de l'intestin grêle.
24 Hematoma of the Sheath of the Radialis. E. Juvara (Jassy).—Contribution à l'étude des épanchements sanguins dans les gaines synoviales tendineuses.
25 *Des exostoses tuberculeuses. M. Mailland.
26 *Strangulated Hernia in Nurslings. E. Estor (Montpellier).—La hernie étranglée chez le nourrisson. (Concluded from Nos. 3 and 4.)

Semaine Medicale (Paris), June 11.

27 *Les formes cliniques de la pleurésie algue tuberculeuse. L. Bard.

Deutsches Archiv f. Klin. Med. (Leipsic), lxxii, 2.

28 Stokes-Adams' Disease. A. Jaquet (Basle).—Ueber die Stokes-Adams'sche Krankheit.
29 Ueber Ascites chylosus. E. Pagenstecher (Wiesbaden).
30 Der myasthenische Symptomencomplex. J. Kollarits (Budapest).
31 Ueber Arthritis gonorrhoica. Markheim (Zurich).
32 (Nos. 3 and 4.) *Ueber die Wirkung verschiedener Bäder insbes. auf den Gaswechsel. H. Winternitz (Halle).
33 *Muscle Juice. R. Vogel (Basle).—Untersuchungen ueber Muskelsaft.
34 Facial Paralysis. G. Köster (Leipsic).—Ein zweiter Beitrag zur Lehre von der Facialislähmung, etc.
35 Beitrag zur Kenntniss der Amoebenenteritis. L. Zorn (Munich).
36 Case of Narrow Aorta. R. Bandel (Nuremberg).—Fall von enger Aorta.
37 *Diag. und therap. Bemerkungen zu einem Fall von Aneurysma aortæ. E. Harmsen (Kiel).

Deutsche Med. Wochft. (Berlin and Leipsic), June 19.

38 New Gasometric Estimation of Hydrochloric Acid in Gastric Juice. E. Riegler (Jassy).—Eine neue gasometrische Bestimmungsmethode der Chlorwasserstoffsäure im Magensafte.
39 Zur Casuistik der Angina Diphtheroides. Lämmerhirt.
40 Fall von langdauernder Ausscheidung von Typhusbazillen mit dem. Urin. Büsing.
41 Ueber Atonie des Magens und ihr Verhältniss zur motorischen Insuffizienz. A. Rosenbaum.
42 Neue Methode Fussabdrücke anzufertigen. G. Muskat (Berlin).
43 Fall von subkutaner Milzruptur. A. Schönwerth (Munich).
44 *Artificial Ripening of Cataract. W. Stood (Barmen).—Künstliche Reifung des grauen Stars in geschlossener Kapsel nach Förster.
45 Proposed Anti-Alcohol Law.—Antrag des Abg. Graf Douglas, betreffend die Bekämpfung des uebertriebenen Alkoholgenusses.
46 Apparatus for Inhalation of Powders. Schenk (Cologne).—Weitere Mittheilungen ueber Pulverinhalation.
47 Aseptic Office Medicine-Chest Table. E. Oppenheimer (Berlin).—Ein Ordinationstisch für das Sprechzimmer.

Muenchener Med. Wochenschrift, June 17.

48 *Diagnosis of Carcinoma of Large Intestine. F. Crämer.—Zur Diagnose des Dickdarmkarzinoms.
49 Microscopic Appearance of Fatigued Muscle. W. Scheffer (Dresden).—Ueber eine mikroscopische Erscheinung am ermüdeten Muskel.
50 Phosphorus in Treatment of Rachitis. E. Ungar (Bonn).—Zur Phosphorbehandlung der Rachitis.
51 Transmissibility of Bovine Tuberculosis to Man. Hüls (Berlin).—Zur Frage der Uebertragung der Rindertuberculose auf den Menschen.
52 Transportables Roentgen-Universalinstrumentarium. Metzner (Dessau).
53 *Treatment of Gastric Ulcer. W. Fleiner (Heidelberg).—Die Behandlung des Magengeschwüres. (Concluded from No. 22.)

Wiener Klin. Wochenschrift, May 22 to June 5.

54 (No. 21.) Cysticercosis cerebri diagnosticirt durch die Lumbalpunction. F. Hartmann (Graz).
55 Beiträge zur path. Anatomie und Parasitologie der Typhomalaria. S. A. Gavala (Athens).
56 Statistics of Serum Treatment of Diphtheria. Mischa (Melk).—Heilserumtherapie im Melk wahrend der letzten 5 Jahre.
57 (No. 22.) *Typhoid Bacilli in Roseola. C. Seemann (Trieste). Zur Roseolenuntersuchung auf Typhusbacillen.
58 Ueber Bacteriohämolysine und Antihämolysine. R. Kraus.—Ibid. M. Ascoli.
59 (No. 23.) *Hemorrhage in Corpus Callosum. M. Infeld (Vienna).—Fall von Balkenbluting. Nebst einem Beitrag sur Auffassung hysterischer Erscheinungen.
60 Nervous Phenomena in Typhoid. C. Hodlmoser.—Beitrag zur Klinik der nervösen Erscheinungen des Abdominaltyphus.
61 The Töplitz Hot Springs. E. Ludwig.—Ueber die Therme von Toplitz.
62 Occurrence in Teratomata of Proliferations Resembling Chorionic Carcinoma and Vesicular Mole. F. Schlagenhaufer (Vienna).—Ueber das Vorkommen chorionepitheliom- und traubenmolenartiger Wucherungen in Teratomen. (Concluded from No. 22.)

Zeitschrift f. Heilkunde (Vienna), xxxiii, 14.

63 Cavernoma in Spleen. H. Albrecht (Munich).—Ueber das Cavernom der Milz.
64 Fall von Endotheliom der Dura mater mit Metastase in der Harnblase. E. Lindner (Munich).
65 Secondary Alterations in Uterine Fibromyomata. Von Jacobson (Prague).—Zur Kenntniss der secundaren Veränderungen in den Fibromyomen des Uterus.
66 Aspergillus in Bronchi of a Diabetic. F. Lucksch (Prague). Vegetation eines bisher noch nicht bekannt gewesenen Aspergillus im Bronchialbaum eines Diabetikers.
67 Congestion Cirrhosis of Liver. V. Eisenmenger (Vienna).—Ueber die Stauungscirrhose der Leber.

Zeitschrift f. Klin. Med. (Berlin), xlv, 3 and 4.

68 *Alkali Tension of the Blood in Disease. K. Brandenburg (Berlin).—Ueber das diffusible Alkali und die Alkalispannung des Blutes in Krankheiten.
69 *The Blood During Measles and Scarlet Fever. Reckzch.—Das Verhalten des Blutes bei Masern und Scharlach im Kindesalter. (Concluded from No. 1.)
70 Functional Capacity of the Cortical Motor Areas in Nurslings. M. Thiemich (Breslau).—Ueber die Functionsfähigkeit der motorischen Rindenfelder beim Säuglinge.
71 Transformation of Albumin and Elimination of Sugar in Severe Diabetes. A. Hesse (Kissingen).—Ueber Eiweissumsatz und Zuckerausscheidung des schweren Diabetikers.
72 *Diabetes Mellitus. T. Rumpf (Bonn).
73 Re-education of Paralyzed Muscles. P. Lazarus (Berlin).—Die Bahnungstherapie der Hemiplegie.
74 Influence of Bitter Mineral Waters on Metabolism in Diabetes and Obesity. E. Allard (Berlin).—Ueber den Einfluss eines nat. Bitterwassers auf den Stoffwechsel bei D. mellitus und Fettsucht.

Rivista di Pat. Nerv. e. Ment. (Florence), April.

75 Functions of the Cerebellum. G. Pagano (Palermo).—Studi sulla fuuzione del cervelletto.
76 Yellow Fever in Etiology of Progressive Paralysis. E. Belmondo (Padua).—La febbre gialla come momento eziologico in un caso di paralisi progressiva.
77 Entire Family Addicted to Cocain. A. Soutzo (Paris).—Cocainismo cronico; perturbamenti psichici in una famiglia dedita al cocainismo.

Gazzetta degli Ospedali (Milan), May 23 to June 1.

78 (No. 57.) *Contributo alla diagnosi differenziale fra calcolo dell' uretere destro ed appendicite. U. Gardini (Bologna).
79 Contributo alla patologia del sistema nervoso trofico e vasomotorio. G. Francesco.
80 (No. 60.) Il valore immunizzante del siero antidifterico studiato a diversi periodi di tempo dalla preparazione. M. Chiadini (Bologna).
81 Dell' afasia nel corso della febbre tifoide. J. Colbertaldo.
82 *Diabete mellito. E. De Renzi (Naples).

Sei-I-Kwai (Tokio), xxi, 2 and 3.

83 Ueber die Centrophormien in dem Descemet'schen Epithel des Rindes. F. Totsuka.
84 On the Laminectomy. S. Suzuki.
85 Anthropologic Study of the Lobules of the Ear. E. Baelz.
86 Sur l'immunité et la sérothérapie de la tuberculose. T. Yabe.
87 *Case of Five Children at Birth. M. S. Sato.

Med. Obozryenie (Moscow), lvii, 1 to 3.

88 (No. 1.) *Resection of the Large Intestine for Tuberculos's. Kablukoff.—Resektzii pryamoi kishki po povodu bugortchatki.
89 K patolog. anatomii comatoznoi formy malarii. Tchernysheff.
90 Occlusion of the Intestines. Rakhmaninoff.—K utcheniyu o neprokhodimosti kishek.
91 (No. 2.) Perforativnii peritonit u neonatorum. Zhukovsky.
92 *Diagnosis of Involvement of the Spine in Rheumatic Fever. Schweitzer.—K diagnostikye revmat. porazhenie pozvonkov.
93 Hematemesis in Appendicitis. Tzypkin.—O krovivoi rvotye pri app.
94 Stain for Malarial Parasite. Shtchegoleff.—O novom sposobye okraski malariinova parazita.

Therapie der Gegenwart (Berlin), June.

95 Treatment of Obesity. C. Gerhardt (Berlin).—Ueber Entfettungscuren.
96 Treatment of Chronic Articular Rheumatism. Machtzum (Berlin).—Die Behandlung des chron. Gelenkrheumatismus.
97 Clinical Value of Algurin, Purgatin and Yohimbin. A. Hess.—Zur klin. Würdigung einiger neuer Arzneimittel.
98 Treatment of Traumatic Neuroses. L. Laquer (Frankfurt a. M.).—Zur physik. und suggest. Behandlung der nach Unfällen auftretende Neuroses.

99 Zur Behandlung des Tabes. Huchzermeyer (Oeynhausen).
100 *Behring's Recent Investigations on Tuberculosis. F. Klemperer.—E. von Behring's neues Tuberkulose-Werk.
101 Die op. Behandlung der diptheritischen Larynxstenose. Finkelstein.
102 B. Naunyn ueber die heutige Therapie.

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2. **Open Method in Arthritis of the Knee.**—Whitehead gives the history of a case in which he operated with a method which he considers original. The details as given by him are briefly as follows: "1. A transverse incision was made through the skin over the center of the patella. 2. The patella was sawn across in a line corresponding with the skin incision. 3. The joint was fully flexed, thoroughly opened and the crucial ligaments divided. 4. All exudations on the surfaces and in all the cavities of the joint were carefully scraped away with a surgical spoon, and immediately afterward all the surfaces were freely swabbed with lint saturated with turpentine. 5. The whole of the exposed surfaces and every crevice was gently packed with iodoform gauze. 6. With the joint well flexed (beyond a right angle) layers of wood-wool were so adjusted by bandages that they not only afforded a compact support to the back of the knee, but also acted in firmly retaining the knee in an acutely-flexed position—a position which made it all but impossible for any discharges to accumulate without bringing them in contact with the iodoform gauze packing." The result was immediate and most striking. All pain disappeared, the temperature fell, sleep was restored, tongue cleared up, appetite came back, delirium subsided and the mental condition was cheerful. The dressings were left undisturbed for two days. Healthy granulations were then visible. Each succeeding day the surface of the joint and the crural pouch were gently syringed with a warm solution of izal and repacked with iodoform gauze and dressings reapplied. This was kept up until the fifth day when the granulations were unduly exuberant and flabby and the exposed surface was then covered with strips of oiled silk. In four days the granulations had subsided, though the temperature rose a little during this treatment. After the removal of the oiled silk the temperature fell to normal, thus indicating that the silk had retained beneath it the secretions and caused the fever. On the thirtieth day after the operation and the fifteenth day after the open method was commenced the leg was straightened and placed on a long back splint with a foot-piece in such a way as to check any tendency to axial rotation or lateral displacement. At the same time the upper fragment of the patella was removed, the lower part having disappeared among the granulations. Natural contour was gradually restored and when cicatrization had advanced circumferentially quite a third of an inch the whole surface was covered with large layers of cuticle by the Thiersch method of grafting. He is not aware of any other case where this method has been deliberately tried, though it has been compulsorily adopted to a certain extent, as some cases, the knee-joint having been torn open by accident, have recovered without suppuration, or have healed up by granulation.

3. **Club-Foot.**—The new method of Ogston, instead of a removal of the whole or a portion of the tarsal bone with its consequent loss, consists in making an incision through the soft parts at some suitable point to divide the enclosing layer of unossified cartilage, the bony kernel may be then partially or completely removed with a Volkmann's sharp spoon, and the bone will be restored by ossification from the shell of cartilage which remains and can be molded to any shape desired. He illustrates the operation in a patient and advises this plan of treating club-foot in bad cases in children. He thinks it is advisable practically up to six years of age, possibly even two years later. It is always advisable, however, to take a radiograph of the foot before performing the operation so as to be sure that the state of the bone is such as to make it successful. *Evidement* of a tarsal bone is not new, as he thinks it was practiced by Sedillot, but the principle of his operation was different. He advised scraping out the whole spongy center of the tarsal bone, such as the calcaneum, and leaving its compact shell for carious disease, and this had nothing in common with this method of treating club-foot.

6. **Relation of Biology to Medicine.**—This lecture of Bradford's calls attention to the relation of biology to medicine in at least three points of view: 1. The scientific or educational value, or in the training of the mind. 2. Its relation to practice in the questions that will present themselves to every practitioner. 3. The influence which it exerts and has exerted and will still more exert in the future on the progress of medical research. He thinks the first and third of these are of more importance than the second, though the latter seems to be the most practical. It is important that medical practitioners should learn to pay due but not undue attention to authority, and biology is a science which greatly helps this acquirement. It also leads to observation with accuracy. The old naturalists' field work is a very excellent training from this point of view. He doubts whether the student gets such a good idea of the great complexities of living matter and phenomena by confining his researches to human anatomy and physiology as he would by studying the simpler forms of life. These ideas are detailed at length in an article that is worth reading.

7. **Adenoids.**—Marsh's second lecture discusses the diagnosis and treatment of adenoids. He favors complete excision and thinks that ethyl chlorid bids fair to supersede other anesthesia. He doubts whether true recurrence takes place when the operation has been thorough and complete removal in suitable cases gives satisfactory results in all operations. Every care, however, should be exercised to prevent disappointment, by thorough examination beforehand and methodical and thorough operation.

8. **Vital Statistics.**—Newsholme reviews the history of vital statistics, calls attention to the effects of national registration and gives credit to cholera as the great sanitary reformer as leading to complete registration of deaths and also to the removal of this registration from the church authorities to a public office as brought out by the exertion of the non-conformists, which was also a step in the progress. He gives examples of the instructive figures that have been obtained by this method and the influence which the reports of the registrar-general have had in promoting public health. He points out that the death registration alone is insufficient as a basis of preventing diseases and advocates the notification of infectious diseases and this should not be confined to actual diagnosis but to suspected cases, as is the rule with diseases in the agricultural animals. He also advocates free medical diagnosis for school children and notification of still other diseases, including under it consumption. Greater use needs to be made of the skilled medical investigator and, therefore, assistant medical officers of health in addition to those at present will be required.

10. **Gastro-Intestinal Influenza or Typhoid.**—The case of difficult diagnosis reported by Mackay simulated typhoid fever in many respects, especially in the abdominal symptoms and roseolæ which he thinks have not hitherto been described as occurring in influenza. The complication mentioned is symmetrical blocking of both femoral arteries which is also rare. The other features are discussed in detail. Unfortunately, no autopsy was permitted and it does not appear that a bacteriologic diagnosis was made during life.

22. **Variability of Tsetse Fly Disease in Different Animals.**—Laveran states that human serum injected into animals suffering from nagana—the tsetse fly disease—causes the trypanosoma to vanish from the blood, at least temporarily. This harmonizes with the fact that human beings are naturally immune to the disease. The clinical picture in various animals is so widely different that no one would imagine they were due to the same cause, except for the parasites in the blood. When the temperature is high they are scarce and increase in number as the fever falls. Among laboratory animals, they are most virulent in rats and mice.

23. **Fibrous Strictures in Small Intestines.**—Quénu describes two cases which seem to indicate that certain forms of tuberculous enteritis may heal without leaving a trace of their tubercular origin, and even the cicatricial formation may have nothing characteristic of tuberculosis, but is merely a fibrous stricture entirely free from nodules. In one patient the onset was insidious, with no symptoms except gurgling sounds in the

right iliac fossa, colics and a tendency to constipation. These symptoms continued during a year when the syndrome of intestinal occlusion was superposed for two days. In the second patient constipation was for several months the sole symptom, except for a few slight attacks of colic. This condition continued for three years before the phase of intestinal occlusion arrived. During the second stage, when the strictures had developed, the syndrome was that of typical tuberculous stenosis and included colics, exaggerated peristalsis, sounds as of water running into or out of a bottle and diarrheic, flatulent discharges. In both cases the patients were cured and restored to active life by resection of the portion of the small intestine that was the seat of the multiple strictures. He describes his technic in detail, preferring a suture to the use of the Murphy button for resection of the intestines.

25. **Tubercular Exostoses.**—Mailland reports four cases which establish the existence of small vermicular, dentated exostoses on the bones of certain tuberculous subjects. They are of periosteal origin and show no evidences of inflammation nor tubercular lesions. They develop near an old focus of tubercular osteitis or occasionally in cases of tuberculosis in which the skeleton was previously sound. They are both the product of reaction to inflammation on the part of the periosteum. The bone marrow does not share in the process as its vitality is usually impaired in tuberculous subjects.

26. **Strangulated Hernia in Nurslings.**—Estor has operated on three infants between three and ten months of age on account of incarcerated inguinal hernia. Only one survived. He has collected 233 cases of strangulated hernia in children under two years of age, and calls attention to the large proportion of hernial appendicitis among them. He tabulates the particulars, devoting forty-five pages to the list, which includes only those operated on or in which the diagnosis was confirmed by the autopsy. The symptoms are practically the same as in adults, but bloody stools were noticed in 4 and retention of urine in 2. In one case strangulation occurred in hernia on both sides with only an eight hours' interval. Laparotomy seems to be a less serious operation on infants than on adults. The mortality recorded in the tables was 32 per cent. before 1885, and 11.4 per cent. from 1885 to 1901. It is higher under six months of age than later. The strangulation is less complete in infants and the time for successful laparotomy is thus correspondingly prolonged. The involvement of the appendix increases the danger, the mortality in such cases being 30.7 per cent. while it is only 23.8 per cent. without this complication. Estor has drawn extensively on American literature, citing, among others, the article on "Strangulated Hernia in Children" in THE JOURNAL, XXXIV, p. 324.

27. **Clinical Forms of Acute Tuberculous Pleurisy.**—Bard thinks that his classification of the various forms of acute tubercular pleurisy will render service in the clinic. He separates them into the three groups, local and autonomous, symptomatic and associated. Local, autonomous pleurisy may be superficial or deep. The second, or symptomatic group, includes pleurisy from a lesion of the thoracic wall or peritoneum, from chronic or incipient pulmonary tuberculosis or from an acute pulmonary attack. The associated form may coincide with tuberculous pneumonia, or multiple tuberculosis of the serous membranes or with formation of granulations. Puncture is the best or the worst treatment according to the group to which the pleurisy belongs. It is beneficial in the localized forms, but is usually useless in the symptomatic, while it is distinctly injurious in the associated form except in cases of multiple tuberculosis of the serous membranes, in which it partakes more of a local character. The amount of fluid to be evacuated is also an important question. Local, superficial pleurisy will require earlier and more complete evacuation than a deep lying pleurisy. He prefers siphon drainage for the purpose.

32. **Influence of Various Baths on Gas Interchange.**—Reviewed in editorial, June 14, p. 1581.

33. **Muscle Juice.**—Vogel has found that muscle juice is the result of a process of autolysis of the muscles. It is not due exclusively to postmortal putrefaction, but is formed in the living being in certain pathologic conditions.

37. **Concentrated Solution of Gelatin in Treatment of Aneurism of Aorta.**—Harmsen found that a 20 per cent. solution of gelatin was perfectly tolerated by the patient whose case is described, and there was no hemoptysis after the first four weeks. He injected 10 c.c. once a week and thus injected a total of 22 gm. in eleven injections. This experience was confirmed on guinea-pigs and demonstrates that it is practicable to inject a much more concentrated solution than has hitherto been advised. If gelatin is to be used at all there seems to be no reason why a 30 per cent. solution should not be used instead of the usual 1 to 5 per cent.

44. **Artificial Ripening of Cataract.**—Stood has hastened the ripening of the cataract, according to Förster's directions, in 130 cases out of a total of 430 cataracts on which he has operated. He has never had a mishap of any kind, the healing proceeded smoothly and the result was apparent in less than twenty-four hours in many instances. It proved most effective in the cortico-nuclear cataracts, and next in the nuclear variety up to the age of 65. It was uncertain after this age, and ineffectual in lamellar cataract. The ripened cataract was ready to be extracted in three to six weeks in 120 out of the 130 cases. He found that the artificially ripened cataracts seemed to heal more rapidly and perfectly after the final operation than the spontaneously ripened. The proportion of cases in which more or less perfect vision was regained was also considerably higher in the artificial than in the other cases. On the other hand, the recurrence of the cataract was observed twice as frequently after the artificial as after the spontaneous ripening. The patients must be warned and prepared for this recurrence. It was never inflammatory in his experience, and was easily remedied, contrary to his experience with recurrence after the spontaneously ripened cortico-nuclear form which left permanent thickening in many cases.

48. **Diagnosis of Carcinoma of Large Intestine.**—Crämer asserts that colic may for a long time be the only symptom of a carcinoma in the large intestine, while certain cases run their entire course without colics. When a previously healthy, middle-aged person commences to be irregular in his stools, with violent colic pains from time to time, and possibly symptoms of occlusion, followed by apparently complete restoration to health, the presumption is in favor of carcinoma of the large intestine, even in the absence of any cachexia or loss in weight or any general symptoms. This presumption is also suggested by frequent minute hemorrhages accompanying the irregular stools, with an increasing tendency to tenesmus. In both these cases the diagnosis need not wait for a palpable tumor. The disturbances due to tobacco must be excluded. Crämer has had a few patients with severe recurring colic, extreme meteorism, high temperature and absolute occlusion, these attacks recurring at intervals of a few months. He had had somewhat similar attacks himself and discovered that they were a manifestation of tobacco poisoning. Reducing the amount of tobacco cured the attacks in himself and in the others. In every case of recurring colics the possibility of carcinoma must be borne in mind and the great danger of inducing metastasis if massage be attempted. Other instructive symptoms are the stiffening of the intestines and the sounds. Crämer compares the latter to the sound made when water is thrown from an open pitcher on the ground. He has studied it in six patients and explains it as the return of the fluid thrown against the stenosis by the peristaltic contraction. As the muscles relax, the fluid pours back. He calls this the "Schüttgeräusch," and considers it pathognomonic of stenosis. Tenesmus is frequently the first symptom to reveal a carcinoma of the rectum, and the latter should always be carefully investigated in case of extreme tenesmus. If this were done regularly, carcinoma would be diagnosed in an early stage more frequently than at present. Irreparable harm may be done by neglect of this important measure. It is especially necessary in cases in which minute hemorrhages are the only symptom. It is the only means of differentiating a purulent proctitis. He has recently had five cases of the latter, and the diagnosis was assured only by the subsidence of the inflamed condition of the rectal mucosa and the lack of symptoms of stenosis. In another case the local

conditions improved, but the annoying tenesmus remained unaltered under treatment applied to the rectum, and the autopsy disclosed a carcinoma of the descending colon. The purulent proctitis in this case was evidently the result of the irritation from the products of the carcinoma or putrid feces. Crämer denies that the shape of the feces can be determined by the stenosis, except by reflex action. The stools are formed by the sphincter ani. They collect after passing the stenosis and assume normal form and their final shape is due to the action of the sphincter ani exclusively. The general condition may be unimpaired even in case of carcinoma of the colon. In a recent case the patient was corpulent and had been sick only eight days. He succumbed to a sudden and total occlusion. The carcinoma extended 17 cm. in the colon.

53. **Treatment of Gastric Ulcer.**—Fleiner thinks that a gastric ulcer does not in itself require surgical intervention unless it is located at the pylorus. In this case operation is indicated in order to forestall cicatricial stenosis and its consequences. The latest statistics from the Heidelberg clinic are 115 interventions in 101 cases of non-malignant gastric affections. The mortality before 1895 was 22 per cent. and since that date, 4.8 per cent. in 85 cases. Two of these deaths were due to previously-existing complications, which entailed a fatal conclusion in spite of the successful gastro-enterostomy. Czerny has now a record of continuous series of 47 and 59 gastro-enterostomies without a single death. The patient must keep absolutely still afterward, but after the cicatrix has healed, he is protected from the danger of hemorrhage and perforation and also of dilatation of the stomach, with much greater liberty in diet and work.

57. **Typhoid Bacilli in Roseolae.**—Seeman was able to cultivate typhoid bacilli from the roseola patches in 32 out of 34 cases in which the attempt was made. In 8 the cultures developed before there was any agglutinating reaction. In the 2 negative cases the roseolæ were already two weeks old and only one or two patches were examined. The agglutinating reaction of 1 to 50 was pronounced in all the cases. Two other typhoid patients were admitted to the hospital during this time, but they had no roseola.

59. **Hemorrhage in Corpus Callosum.**—This communication from Krafft-Ebing's clinic describes the case of a girl of 19 previously healthy, although of a "lymphatic constitution," who died in four and one-half hours after the first symptoms. They suggested a hysteric attack at first, but this diagnosis was dispelled by the extreme pallor, slow, irregular pulse and the lax condition of the muscles succeeding to the spasmodic contraction, also by the loss of consciousness and the onset of the trouble with vomiting. These symptoms indicated that the blood had poured into the ventricle. In two other cases on record the ventricle was not invaded at first, and the patients survived two weeks. Infeld relates a second case of hysteric symptoms caused by an organic affection, and argues that the hysteric disposition is made up of two independent factors, a psychic and an essentially somatic factor. The former consists in a hereditary or acquired tendency to hypochondria. The somatic factor is an abnormally loose connection between the functional complexes. This condition not only affects the physical complexes but likewise the psychic. It may be the foundation for the transient suspension of certain functions, for abnormal susceptibility to suggestion, for conditions of dual consciousness, as in hypnosis, and for transient "twilight conditions," as in hysteria.

68. **Alkali Tension of the Blood.**—Brandenburg has found that in health the proportion between the diffusible alkali and the total alkali is as 1 to 5, so that 20 per cent. of the blood alkali can be accepted as diffusible. He notes a certain connection between the freezing-point of the blood and what he calls the "alkali tension."

69. **The Blood in Measles and Scarlet Fever.**—Hypoleucocytosis is the rule in measles, and hyperleucocytosis in scarlet fever, Reckzeh has established. He also noted that the eosinophile cells were diminished in numbers in cases of measles, while they were normal in scarlet fever. He found during the first few days of scarlet fever that the polynuclear neutrophile cells were unusually numerous, while the lymphocytes were increased in measles. His conclusions are deduced from observation of twenty cases.

72. **Diabetes.**—In Rumpf's clinical experience he has noticed that diabetic coma is preceded by a loss of water from the organism. He also has observed that the organs and tissues of persons dying in coma are always remarkably dehydrated. This loss of the water from the body has in many instances been combated, temporarily at least, by ingestion or injection of fluids. He describes a number of severe cases of diabetes distinguished by the appearance of the typical "coma crystals" in the urine, and the large amount of the latter voided just before the onset of the coma. Also by the fact that deprivation of carbohydrates was invariably followed by an increase in the amount of urine voided, by loss in weight, appearance of the coma crystals and these in turn by coma. The autopsy disclosed that the tissues were markedly dehydrated. The administration of 10 to 20 gm. of sodium citrate failed to ward off these serious consequences of suspension of carbohydrates. Rumpf therefore warns against complete deprivation of carbohydrates in severe cases of diabetes. One that he describes testifies to the fact that coma may spontaneously retrogress, even without intravenous infusion of a solution of sodium carbonate. If the urine is measured daily as a matter of routine any increase in the average amount will be noticed and measures can be taken to ward off the impending dehydration of the tissues and coma. The future will reveal the indications to be derived from this warning.

78. **Differential Diagnosis Between Calculus in Right Ureter and Appendicitis.**—Gardini describes the case of a young man who had recurring attacks of pain in the right iliac fossa, radiating to the thigh and testicle on the same side. The pains were accompanied by a chill and temperature of 104 F. with indications of constipation, frequent vomiting, at times bilious, tongue dry and coated, and a few blood corpuscles and albumin in urine. These phenomena commenced to subside after three or four days, and all symptoms disappeared by the end of one or two weeks, except a slight sensation of oppression and pain at McBurney's point, aggravated by movements of the body, while the abdomen generally was somewhat distended and painful on pressure, and the urine was not quite normal. He had about six of these attacks in the course of twenty months. The last one was most severe and was accompanied by symptoms of a calculus in the urethra. It proved to be about the size and shape of a date stone, and after its removal the patient was completely cured of all his attacks and has been in undisturbed health for more than a year. Another patient, a man of 64, exhibited exactly the same symptoms except that the urine was normal, and that the fever did not have the characteristics of a septic fever as in the first case. The chief point in differentiating was the absence of any indications of an inflammatory process in the urinary passages. The appendix was assumed to be the cause of the trouble, and the operation revealed adhesions between it and the neighboring organs. The patient has been freed from all disturbances since the appendix was removed. The finding of pus or blood corpuscles in the urine does not exclude the diagnosis of appendicitis, as the latter may be accompanied by reflex or inflammatory processes in the urinary apparatus.

82. **Diabetes Mellitus.**—De Renzi adds another, the nervous alterations, to the five fundamental symptoms of diabetes: glycosuria, polyuria, polydipsia, polyphagia and autophagia. There is usually weakness in the legs, suggesting the influence of the disease on the spinal cord. He found the knee-jerk abolished in 38 out of 50 diabetics and much attenuated in 10. He found no correspondence between Westphal's sign and the duration or severity of the diabetes. In some of the severest cases the knee-jerk was apparently normal, although it tired easily. There is frequently dissociation of sensibility, sometimes as marked as in syringomyelia. It is worthy of note that the animals in experimental diabetes sometimes exhibit symptoms suggesting syringomyelia, and De Renzi has observed cases of actual diabetic or at least arthritic syringomyelia. Trophic disturbances such as edema, furuncles, etc., were noticed in a

third of his diabetic patients. Almost every diabetic has edema of the ankles and legs, sometimes reaching to the knee. One of the most characteristic nervous symptoms is a sudden, involuntary bending of the legs, or there may be actual "intermittent claudication." The mind may also become affected in diabetes, the disturbance ranging from weakness of the memory to melancholia and an impulse to suicide or perversion of the moral sense. Diabetes is no longer the dreaded disease of former ages. Persons still die from it, but it can be kept under control and the fatal termination long postponed if recognized early and suitably treated. It offers a favorable soil for other infections, hence the frequency of pneumonia and tuberculosis among diabetics. Clinical experience has demonstrated, however, that numbers of persons exhibiting the appearance of tuberculosis grafted on diabetes are in reality suffering from a non-tubercular chronic affection. True tuberculosis is comparatively rare in diabetics; Fraenkel's diplococcus is the more frequent guest. De Renzi accepts beta-oxybutyric acid as the chief factor in diabetic coma, and states that as much as 200 gm. of this acid have been found in the tissues of persons dying in coma. This proportion is larger than the toxic dose for animals.

87. **Case of Five Children at Birth.**—Sato states that the five infants were born within thirty minutes, a month before full term. There were three placentæ. The mother was 37, had been married at 15, menstruated at 16 and had borne eight children previously, including a pair of twins.

88. **Resection of the Large Intestine for Tuberculosis.**—Kablukoff reports two cases operated on *in extremis* on account of tubercular lesions in the cecum. One survived two and one-half years after the intervention. The article urgently endorses the value of the Murphy button, citing Russian authorities as to its successful application. V. V. Maximoff, for instance, has reported 680 cases in which he has used it. The mortality was 35.6 per cent. in 278 cases of gastro-enterostomy and pylorectomy; 27.43 per cent. in 328 operations on the intestines and 20.37 per cent. in 74 on the gall-bladder.

92. **Diagnosis of Involvement of the Spine in Articular Rheumatism.**—Schweitzer observes that the thoracic portions of the vertebræ are more frequently involved in the morbid process in acute articular rheumatism than is generally recognized. The spontaneous pain in rheumatism is not very severe and as there is little movement of the thoracic portion of the spine attention is not called to the lesion at this point, while involvement of the cervical and lumbar vertebræ is more liable to be noticed. If spontaneous pain is not increased by moving the part, it is not due to rheumatism. If passive movements of the joints do not increase the pain, while it is aggravated by active movements mainly affecting the muscles and fasciæ, then it is these rather than the bones that are involved. If the pains are aggravated by both passive and active movements, then the vertebræ are certainly affected. In one of three cases he describes, the fourth to sixth cervical vertebræ were swollen on the left side and the pains in them were increased by both passive and active movements. The diagnosis of rheumatism of these vertebræ was evident and the patient soon recovered under massage and baths, etc. In the second case the symptoms indicated simultaneous invasion of the muscles, fascia and vertebræ. A third case simulated meningitis, even to Kernig's sign, but the development of endocarditis and involvement of the knees soon settled the diagnosis. The first two cases were children and no joints except the vertebræ mentioned were affected. The head was bent toward the affected side. Stoll has reported that the vertebræ were affected in 10 per cent. of 459 cases of articular rheumatism, and Beekman states that this occurs in 10 per cent. of the acute and in 87 per cent. of the chronic cases. Weisch found in 100 cases that the entire vertebræ were affected in 20; the cervical in 8; the lumbar in 46, and the cervical and lumbar in 24.

100. **Behring's Successful Vaccination Against Tuberculosis.**—Behring has at last published the long-anticipated report of his researches in the line of protective immunization against tuberculosis. It forms Heft 5 of the *Beitraege zur exp. Therapie* (Marburg, N. G. Elwert.) He states that his efforts to render cattle immune to tuberculosis have been crowned with success. He proceeds on the same principle as vaccination against smallpox by inoculation of cowpox. He uses not the bovine but the human tubercle bacilli. Previous efforts in this line have been with homologous bacilli, and the result was similar to the old-fashioned variolation which has been supplanted by vaccination. There is no general reaction to inoculation of serum cultures of human tubercle bacilli, but the animals are henceforth protected against the fatal dose of bovine tubercle bacilli cultivated from nodules of bovine tuberculosis and the virulence enhanced by reinoculation into other cattle. This is the severest possible test, as Koch has announced that cattle invariably die of acute miliary tuberculosis in lungs and abdomen after inoculation of even a small amount. Behring uses a mother culture of human bacilli derived from a guinea-pig infected with phthisical sputum in 1895, and reinoculated into other guinea-pigs. He makes an intravenous injection of 1 mg. of a four to six weeks' serum culture from this mother culture. He chooses for the tests a cow from 5 to 7 months old, that does not react to the standard tuberculin test. Four weeks later the animal receives another injection, twenty-five times larger than the first, that is, 25 mg. of the same serum culture. The animal is now completely protected against all laboratory infection from tuberculosis. Time will soon decide whether this method of immunization will stand the test of application on a large scale outside the laboratory. Some of his protected cattle are now tethered in stalls beside a cow in an advanced stage of tuberculosis. He is convinced of the identity of human and bovine tubercle bacilli and has succeeded in isolating the essential toxin nucleus, that is, the chemical substance which, in combination with various other substances, is contained in all preparations of tubercle bacilli and without which it is impossible to produce the specific tuberculin action. The degree of the toxicity of different cultures is widely variable, but the essential toxic action is always identical with tubercle bacilli from any source. This is a strong argument in favor of the identity of human and bovine tubercle bacilli, as also the fact that human bacilli can be rendered extremely virulent for cattle by appropriate passages through animals, and that even bovine tubercle bacilli do not inevitably induce bovine tuberculosis in cattle. The conviction is constantly gaining ground that the characteristic features of bovine tuberculosis are merely manifestations of the chronic course of the disease. But the most convincing argument of all is the result of his experiments which prove that animals can be immunized against bovine tuberculosis by inoculation with serum cultures of human bacilli and vice versa. Klemperer adds that although Behring's communication deals only with cattle, the three words "and vice versa" open a new and promising phase in the campaign against human tuberculosis.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF PRACTICAL ANATOMY. By the Late Professor Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., F.R.C.S. Eng., Professor of Anatomy, King's College. Edited and Completed by Arthur Keight, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In Three Parts. Part II. The Abdomen and Thorax. Illustrated by 4 Colored Plates and 151 Figures in the Text. Cloth. Pp. 308. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otology in Harvard Medical School, Boston. New (3d) Edition. In One Handsome 12mo. Volume of 437 Pages, with 120 Engravings and 7 Plates in Colors and Monochrome. Cloth. Price, $2.25 net. Philadelphia and New York: Lea Brothers & Co.

CLINICAL LECTURES ON NEURASTHENIA. By Thomas D. Savill, M.D., Physician to the West-End Hospital for Diseases of the Nervous System, London. Second Edition. Cloth. Pp. 171. Price, $1.50 net. New York: Wm. Wood & Co. 1902.

THE ROLLER BANDAGE. By William Barton Hopkins, M.D., Surgeon to Pennsylvania Hospital. With Illustrations. Fifth Edition, Revised. Cloth. Pp. 162. Price, $1.50. Philadelphia: J. B. Lippincott Co. 1902.

BIENNIAL REPORT OF THE BOARD OF HEALTH OF THE CITY AND COUNTY OF SAN FRANCISCO, for the Fiscal Years 1898-1899 and 1899-1900. Paper. San Francisco: The Hinton Printing Co. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 19 to 25, 1902, inclusive:

W. Edson Apple, captain and asst.-surgeon, Vols., the journey performed by him from Tientsin, China, to Manila, P. I., in November, 1900, is approved by the Secretary of War.

Frederick W. Cox, captain and asst.-surgeon, Vols., leave of absence from the Division of the Philippines extended one month.

George F. Fanning, contract surgeon, now in San Francisco, is relieved from further duty in the Division of the Philippines, to proceed to Fort Huachuca, Ariz., for post duty.

Robert B. Grubbs, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines, to take effect on or about Sept. 15, 1902, to proceed to San Francisco, and on arrival to report by telegraph to the Adjutant-General of the Army for further orders.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence to include July 20, granted to take effect on the expiration of his present sick leave.

Valery Havard, lieut.-col. and deputy surgeon-general, previous orders modified so as to require him to represent the Medical Department of the Army at the Second International Conference for the Prevention of Syphilis and Venereal Diseases, to be held in Brussels, Belgium, and to proceed to that place not later than July 15. After carrying out such instructions pertaining to the Conference as he may receive from the Surgeon-General of the Army, he will return to his proper station, Fort Monroe, Va., not later than October 15.

James P. Hepburn, contract surgeon, member of an examining board at Fort Douglas, Utah.

William Hoepfner Winterberg, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect July 31; leave of absence granted until that date.

Henry F. Hoyt, major and surgeon, Vols., member of an examining board at Fort Douglas, Utah.

James V. May, contract surgeon, leave of absence for one month and ten days granted.

Paul Mazzuri, captain and asst.-surgeon, Vols., leave of absence extended one month.

Edward L. Munson, captain and asst.-surgeon, U. S. A., relieved from duty in the office of the Surgeon-General of the Army, to proceed to San Francisco, en route for service in the Division of the Philippines.

David W. Overton, contract surgeon, now at Fort Snelling, Minn., relieved from further duty in the Division of the Philippines, to proceed to New Yory City, reporting on arrival by letter to the Surgeon-General.

Frank E. Thompson, contract surgeon, having arrived in San Francisco, will report for assignment to duty with the Ninth Infantry en route to the Department of the East.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., leave of absence extended seven days.

Lewis H. Wheeler, contract surgeon, now at Fort Yates, N. D., relieved from further duty in the Division of the Philippines and assigned to duty at Fort Yates.

Robert S. Woodson, captain and asst.-surgeon, U. S. A., having arrived at San Francisco, Cal., will report for duty with the Ninth Infantry en route to the Department of the East.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending June 28, 1902:

Surgeon E. P. Stone, detached from the *Dolphin* and ordered to the *Mayflower*.

Surgeon J. W. Ross, retired, ordered to the Pensacola Navy Yard.

Surgeon C. T. Hibbett, detached from the *Brooklyn*, and ordered home to wait orders.

P. A. Surgeon C. E. Riggs, detached from the Naval Station, Port Royal, and ordered to the *Brooklyn*.

P. A. Surgeon S. G. Evans, detached from the Pensacola Navy Yard, and ordered to the Naval Station, Port Royal, S. C.

Asst.-Surgeon R. C. Holcomb, detached from the *Manila*, when put out of commission, and ordered home to wait orders.

Medical Inspector L. G. Heneberger, detached from duty as a member of the Medical Examining Board, Naval Laboratory, New York, and ordered to the *Brooklyn*.

P. A. Surgeon C. E. Riggs, orders of June 21 modified, and ordered to the *Dolphin*, instead of the *Brooklyn*.

Asst.-Surgeon A. M. Fauntleroy, detached from the Naval Hospital, Newport, R. I., and ordered to the *Scorpion*.

P. A. Surgeon W. M. Garton, detached from the Naval Hospital, New York, and ordered to the *Columbia*.

Asst.-Surgeon B. L. Wright, ordered to Fort Bayard, N. M., for treatment at the United States General Hospital at that place.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended June 26, 1902:

Surgeon F. W. Mead, granted leave of absence for two months from July 1.

Surgeon J. O. Cobb, to proceed to Missoula, Mont., for special temporary duty.

P. A. Surgeon A. R. Thomas, one month's leave of absence, on account of sickness, granted by Bureau letter of June 10, revoked, and directed to proceed to Naples, Italy, and report to P. A. Surgeon J. M. Eager for duty.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for fourteen days upon being relieved from temporary duty at Brunswick Quarantine Station.

A. A. Surgeon H. McD. Martin, granted leave of absence for thirty days from June 16.

A. A. Surgeon M. H. Ross, granted leave of absence for fourteen days from June 13.

A. A. Surgeon M. V. Safford, granted leave of absence for fifteen days from July 1.

Senior Pharmacist L. W. Ryder, granted leave of absence for eleven days from June 23.

Senior Pharmacist R. F. Troxler, granted leave of absence for seven days from June 20, under paragraph 201 of the regulations.

Junior Pharmacist F. A. Southard, granted leave of absence for fifteen days from July 8.

Junior Pharmacist Carl Stier, relieved from duty at Memphis, Tenn., and directed to proceed to Mullet Key Quarantine Station and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened at Washington, D. C., June 23, for the physical examination of George W. David, Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, Chairman; Asst.-Surgeon B. S. Warren, Recorder.

Board convened at Washington, D. C., June 26, for the physical examination of Third Lieutenant F. W. Smith, Revenue Cutter Service. Detail for the Board: Surgeon J. H. White, Chairman; Surgeon L. L. Williams; Surgeon R. M. Woodward, Recorder.

APPOINTMENT.

Sanitary Inspector Lea Hume, appointed acting assistant-surgeon for duty at Eagle Pass, Texas, to date from June 1, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 28, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, June 7-14, 1 case; Sacramento, June 14-21, 3 cases.

Colorado: Denver, June 7-14, 3 cases.

Florida: Jacksonville, June 14-21, 2 cases.

Illinois: June 14-21, Belleville, 1 case; Chicago, 7 cases.

Indiana: Indianapolis, June 7-21, 18 cases; Terre Haute, June 14-21, 2 cases.

Kansas: Wichita, June 14-21, 4 cases.

Kentucky: Covington, June 14-21, 2 cases.

Louisiana: New Orleans, June 14-21, 1 case nine hours in city.

Massachusetts: Boston, June 14-21, 6 cases, 1 death; Cambridge, June 14-21, 41 cases, 1 death; Chicopee, June 14-21, 3 cases; Lowell, June 14-21, 3 cases; Malden, June 14-21, 2 cases; Worcester, June 13-20, 1 case.

Michigan: Detroit, June 14-21, 5 cases, 1 death; Ludington, June 7-14, 3 cases.

Missouri: St. Louis, June 15-22, 25 cases, 1 death.

Nebraska: Omaha, June 14-21, 19 cases.

New Hampshire: Nashua, June 14-21, 11 cases.

New Jersey: Hudson County, Jersey City included, June 15-22, 33 cases, 3 deaths; Newark, June 14-21, 29 cases, 7 deaths.

New York: June 14-21, Elmira, 1 case; New York, 59 cases, 8 deaths.

Ohio: Cincinnati, June 13-20, 12 cases; Cleveland, June 14-21, 52 cases, 5 deaths; Hamilton, June 14-21, 8 cases; Toledo, June 14-21, 2 cases; Youngstown, June 7-14, 1 case.

Pennsylvania: Johnstown, June 14-21, 13 cases, 1 death; Philadelphia, June 14-21, 20 cases, 3 deaths; Scranton, June 14-21, 5 cases.

Rhode Island: Providence, June 14-21, 7 cases.

South Carolina: Greenville, June 14-21, 1 case.

Wisconsin: Green Bay, June 16-23, 2 cases; Milwaukee, June 14-21, 8 cases.

SMALLPOX—INSULAR.

Porto Rico: Ponce, to May 14, 74 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, May 31-June 7, 1 case, 2 deaths.

Brazil: Pernambuco, April 15-May 15, 42 deaths.

Colombia: Cartagena, June 1-8, 1 death; Panama, June 8-16, 10 cases.

France: Rheims, June 1-8, 2 cases, 1 death.

Great Britain: Birmingham, May 31-June 7, 9 cases; London, May 3-June 7, 188 cases, 29 deaths; South Shields, May 24-June 7, 8 cases, 1 death.

India: Bombay, May 20-27, 9 deaths; Calcutta, May 17-24, 2 deaths; Karachi, May 18-25, 3 cases, 1 death; Madras, May 10-16, 2 deaths.

Italy: Milan, April 1-30, 5 cases; Palermo, May 31-June 7, 12 cases, 2 deaths.

Mexico: City of Mexico, June 8-15, 5 cases, 2 deaths.

Russia: Moscow, May 24-31, 15 cases, 3 deaths; Odessa, May 24-June 7, 11 cases, 1 death; St. Petersburg, May 24-June 7, 24 cases, 5 deaths; Warsaw, May 17-24, 1 death.

Turkey: Smyrna, May 18-24, 2 deaths.

YELLOW FEVER.

Brazil: Pernambuco, April 15-May 15, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, April 28-May 10, 332 cases, 267 deaths; Provinces, April 28-May 10, 1090 cases, 781 deaths.

CHOLERA—FOREIGN.

India: Bombay, May 20-27, 3 deaths; Calcutta, May 18-24, 55 deaths.

Japan: Karatsu, June 23, present.

PLAGUE.

Brazil: Pernambuco, April 15-May 15, 61 deaths.

Egypt: General, May 28-June 4, 48 cases, 2 deaths; Alexandria, April 14-June 4, 18 cases, 11 deaths.

India: Bombay, May 20-27, 174 deaths; Calcutta, May 17-24, 205 deaths; Karachi, May 18-25, 77 cases, 66 deaths.

Japan: Nagasaki, May 11-20, 1 case, 1 death.

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SAMPLES AND LITERATURE ON APPLICATION MELLIER DRUG COMPANY, ST. LOUIS